

50hz Hydroturbine Selection Chart

Direct Connected Turbines and Generators

		Approximate Location of Best Efficiency Point at each Guide Vane Angle										
Model	Generator Poles	Hydraulic Speed	50 deg	57 deg	63 deg	70 deg	77 deg	Standard Generator Sizes				
7556	14 pole	440 rpm	.65m3/s at 3.2m	.75m3/s at 2.8m	.75m3/s at 2.7m	.85m3/s at 2.9m	-	40kW	60kW			
	12 pole	510 rpm	0.7m3/s at 4.2m	.9m3/s at 3.7m	.9m3/s at 3.7m	1m3/s at 4m	-	45kW	70kW			
	10 pole	610 rpm	0.9m3/s at 6m	1m3/s at 5.5m	1m3/s at 5.2m	1.2m3/s at 5.8m	-	70kW	100kW			
	8 pole	765 rpm	1.1m3/s at 9.5m	1.2m3/s at 9m	1.3m3/s at 8.2m	1.5m3/s at 9m	-	100kW	140kW	170kW		
7570	14 pole	440 rpm	1.3m3/s at 5m	1.6m3/s at 4.5m	1.6m3/s at 4.5m	1.8m3/s at 4.8m	1.9m3/s at 4.5m	70kW	90kW	125kW	155kW	
	12 pole	505 rpm	1.5m3/s at 7m	1.8m3/s at 6m	1.8m3/s at 5.8m	2.1m3/s at 6.2m	2.2m3/s at 5.8m	90kW	110kW	160kW	200kW	290kW
	10 pole	605 rpm	1.8m3/s at 10m	2.2m3/s at 8.2m	2.2m3/s at 8m	2.5m3/s at 9m	2.5m3/s at 8m	140kW	190kW	230kW	365kW	
	8 pole	760 rpm	2.3m3/s at 15m	2.7m3/s at 13.8m	2.7m3/s at 13m	3m3/s at 14m	3.2m3/s at 13m	230kW	300kW	390kW	430kW	
7585	14 pole	430 rpm	2.25m3/s at 7m	2.75m3/s at 6.5m	2.75m3/s at 6m	3.25m3/s at 7m	-	160kW	200kW	250kW	300kW	
	12 pole	505 rpm	2.75m3/s at 10m	3.25m3/s at 9m	3.25m3/s at 8m	3.75m3/s at 9m	-	250kW	290kW	350kW	395kW	
	10 pole	605 rpm	3.25m3/s at 14m	3.75m3/s at 13m	4m3/s at 13m	4.25m3/s at 12m	-	290kW	365kW	400kW	460kW	
7600	14 pole	430 rpm	3.25m3/s at 9m	4m3/s at 8.5m	4.25m3/s at 8m	4.5m3/s at 8m	-	250kW	300kW			
	12 pole	505 rpm	3.75m3/s at 12m	4.5m3/s at 12m	5m3/s at 11m	5m3/s at 10.5m	-	350kW	395kW			

Gear Driven Turbines and Generators

		Approximate Location of Best Efficiency Point at each Guide Vane Angle										
Model	Generator Poles	Hydraulic Speed	50 deg	57 deg	63 deg	70 deg	77 deg	Standard Generator Sizes				
7585	6 pole	226 rpm	1.2m3/s at 2m	1.4m3/s at 1.75m	1.4m3/s at 1.75m	1.6m3/s at 1.75m	-	110kW				
		252 rpm	1.3m3/s at 2.5m	1.6m3/s at 2.25m	1.6m3/s at 2m	1.8m3/s at 2.25m	-	110kW				
		290 rpm	1.6m3/s at 3.5m	1.8m3/s at 3m	1.8m3/s at 2.8m	2.1m3/s at 3m	-	110kW	160kW			
		305 rpm	1.6m3/s at 3.5m	1.9m3/s at 3.25m	1.9m3/s at 3.25m	2.25m3/s at 3.4m	-	110kW	160kW			
		337 rpm	1.8m3/s at 4.5m	2.1m3/s at 4m	2.2m3/s at 4m	2.4m3/s at 4m	-	110kW	160kW	200kW		
		380 rpm	2.1m3/s at 5.5m	2.4m3/s at 5m	2.4m3/s at 5m	2.75m3/s at 5m	-	110kW	160kW	200kW		
		433 rpm	2.4m3/s at 7m	2.75m3/s at 6.5m	2.75m3/s at 6m	3.25m3/s at 7m	-	160kW	200kW	250kW	340kW	
		503 rpm	2.75m3/s at 10m	3.25m3/s at 9m	3.25m3/s at 8m	3.75m3/s at 9m	-	200kW	340kW	500kW	600kW	
	4 pole	606 rpm	3.25m3/s at 14m	3.75m3/s at 13m	4m3/s at 13m	4.25m3/s at 12m	-	500kW	600kW			
		253 rpm	1.3m3/s at 2.5m	1.6m3/s at 2.25m	1.6m3/s at 2m	1.8m3/s at 2.25m	-	135kW				
		303 rpm	1.6m3/s at 3.5m	1.9m3/s at 3.25m	1.9m3/s at 3.25m	2.25m3/s at 3.4m	-	135kW				
		337 rpm	1.8m3/s at 4.5m	2.1m3/s at 4m	2.2m3/s at 4m	2.4m3/s at 4m	-	135kW	190kW			
		377 rpm	2.1m3/s at 5.5m	2.4m3/s at 5m	2.4m3/s at 5m	2.75m3/s at 5m	-	135kW	190kW	230kW		
		431 rpm	2.4m3/s at 7m	2.75m3/s at 6.5m	2.75m3/s at 6m	3.25m3/s at 7m	-	135kW	190kW	230kW	290kW	
		453 rpm	2.5m3/s at 8m	2.75m3/s at 7m	2.8m3/s at 7m	3.25m3/s at 7.5m	-	190kW	230kW	290kW	375kW	
		498 rpm	2.75m3/s at 10m	3.25m3/s at 9m	3.25m3/s at 8m	3.75m3/s at 9m	-	190kW	230kW	290kW	375kW	
7600	8 pole	567 rpm	3m3/s at 12m	3.5m3/s at 11m	3.6m3/s at 11m	3.8m3/s at 11m	-	230kW	290kW	375kW		
		323 rpm	2.75m3/s at 5.5m	3.25m3/s at 5m	3.25m3/s at 5m	3.75m3/s at 5m	-	300kW				
		378 rpm	3.25m3/s at 8m	3.75m3/s at 7m	3.75m3/s at 6.5m	4.5m3/s at 7m	-	350kW	430kW	500kW		
		451 rpm	3.75m3/s at 11m	4.5m3/s at 10m	5m3/s at 10m	5.25m3/s at 10m	-	430kW	500kW			
	6 pole	203 rpm	1.8m3/s at 2.25m	2m3/s at 2m	2m3/s at 2m	2.25m3/s at 2m	-	110kW				
		226 rpm	2m3/s at 2.75m	2.2m3/s at 2.5m	2.3m3/s at 2.5m	2.5m3/s at 2.5m	-	110kW	160kW			
		252 rpm	2.25m3/s at 3.5m	2.5m3/s at 3m	3.5m3/s at 3m	3m3/s at 3.2m	-	110kW	160kW	200kW		
		290 rpm	2.5m3/s at 4.5m	3m3/s at 4m	3m3/s at 4m	3.25m3/s at 4m	-	110kW	160kW	200kW	250kW	
		305 rpm	2.5m3/s at 5m	3m3/s at 4.5m	3m3/s at 4m	3.5m3/s at 4.5m	-	110kW	160kW	200kW	250kW	310kW
		337 rpm	3m3/s at 6m	3.5m3/s at 5.5m	3.5m3/s at 5m	4m3/s at 5.5m	-	160kW	200kW	250kW	310kW	340kW
		380 rpm	3.25m3/s at 8m	3.75m3/s at 7m	3.75m3/s at 6.5m	4.5m3/s at 7m	-	160kW	200kW	250kW	310kW	340kW
		433 rpm	3.7m3/s at 10m	4.5m3/s at 9m	4.75m3/s at 9m	5m3/s at 9m	-	250kW	340kW	400kW	500kW	600kW
	4 pole	503 rpm	4.25m3/s at 14m	5m3/s at 12m	5.25m3/s at 12m	5.5m3/s at 11m	-	400kW	500kW	600kW		
		253 rpm	2.25m3/s at 3.5m	2.5m3/s at 3m	3.5m3/s at 3m	3m3/s at 3.2m	-	135kW	190kW	230kW		
		303 rpm	2.5m3/s at 5m	3m3/s at 4.5m	3m3/s at 4m	3.5m3/s at 4.5m	-	135kW	190kW	230kW	290kW	375kW
		337 rpm	3m3/s at 6m	3.5m3/s at 5.5m	3.5m3/s at 5m	4m3/s at 5.5m	-	135kW	190kW	230kW	290kW	375kW
		377 rpm	3.25m3/s at 8m	3.75m3/s at 7m	3.75m3/s at 6.5m	4.5m3/s at 7m	-	190kW	230kW	290kW	375kW	
		431 rpm	3.7m3/s at 10m	4.5m3/s at 9m	4.75m3/s at 9m	5m3/s at 9m	-	230kW	290kW	375kW		
		453 rpm	4m3/s at 11m	4.5m3/s at 10m	4.75m3/s at 10m	5m3/s at 9m	-	230kW	290kW	375kW		
		498 rpm	4m3/s at 13m	4.75m3/s at 12m	5.2m3/s at 12m	5.5m3/s at 11m	-	375kW				

How to use this document:

This document includes the curve fields for the Flygt Hydroturbine product range. The first two pages of this document includes a table to show the approximate location of the best efficiency point in the curve field. With this point you can at a glance see where a given turbine will operate. In general, the best efficiency point will be around a runner angle of 20 degrees. So the turbine will also operate quite far to the left and a little to the right of the best efficiency point. Use the bookmarks on the left side of the pdf to navigate to a curve field.

All curves are for four bladed runners. Five bladed runners do not change the flow very much, but will add head and reduce the NPSHr. As 5 bladed runners are not automatically adjustable, they tend to be used in high head applications to reduce the NPSHr. If the duty point you are working with has a NPSHr that is too high in the 4 blade curve field, use PECU to look at the 5 blade selection. The 7650 does not have a 5 bladed runner option.

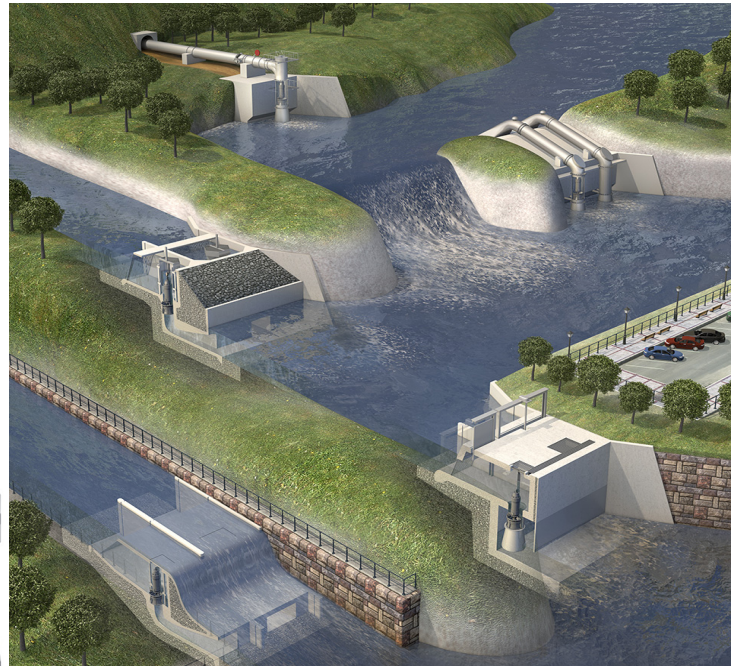
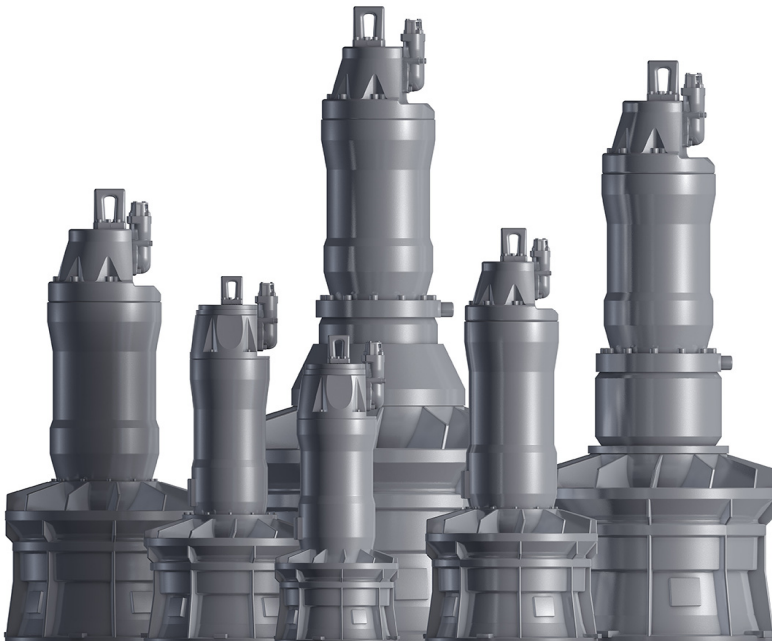
The table is broken into two parts, with direct driven units first, then gear box driven units after. Each size is then organized with the slowest units on top and speeding up as you go down. The table also shows the standard generator sizes currently in the system for each speed and size of turbine. This should not be thought of as the complete list. If a generator is not listed at a particular speed and you would like to use it, ask the growth center and we can investigate if it can be used. 965 drive units and 7x6 drive units are not currently listed but can be investigated for use with hydroturbines. Use the formula: flow (in m3/s) multiplied by head (in meters) multiplied by 8 to find out the approximate generator size your application needs.

Gear Driven Turbines and Generators (Continued)

Model	Generator Poles	Hydraulic Speed	Approximate Location of Best Efficiency Point at each Guide Vane Angle					Standard Generator Sizes									
			50 deg	57 deg	63 deg	70 deg	77 deg										
7620	8 pole	227 rpm	3.5m3/s at 4m	4m3/s at 3.5m	4m3/s at 3.5m	4.5m3/s at 4m	-	300kW	350kW	390kW	430kW						
		252 rpm	4m3/s at 5m	4.5m3/s at 4.5m	4.5m3/s at 4m	5.2m3/s at 4.5m	-	300kW	350kW	390kW	430kW	500kW					
		285 rpm	4.5m3/s at 6m	5m3/s at 5.5m	5m3/s at 5.5m	5.75m3/s at 5.5m	-	300kW	325kW	390kW	430kW	500kW					
		324 rpm	5m3/s at 8m	5.75m3/s at 7.5m	6.5m3/s at 8m	6.6m3/s at 7.5m	-	300kW	350kW	390kW	430kW	500kW					
		378 rpm	5.5m3/s at 10m	6.5m3/s at 10m	7m3/s at 9m	7.5m3/s at 9.5m	-	430kW	500kW								
		169 rpm	2.5m3/s at 2.25m	3m3/s at 2m	3m3/s at 2m	3.5m3/s at 2m	-	110kW	160kW								
	6 pole	203 rpm	3m3/s at 3.2m	3.5m3/s at 2.7m	3.5m3/s at 2.7m	4m3/s at 3m	-	110kW	160kW	200kW							
		226 rpm	3.5m3/s at 4m	4m3/s at 3.5m	4m3/s at 3.5m	4.5m3/s at 4m	-	110kW	160kW	200kW	250kW	310kW	340kW	380kW	400kW		
		252 rpm	4m3/s at 5m	4.5m3/s at 4.5m	4.5m3/s at 4m	5.2m3/s at 4.5m	-	160kW	200kW	250kW	310kW	340kW	400kW	470kW	500kW	600kW	
		289 rpm	4.5m3/s at 6m	5m3/s at 5.5m	5m3/s at 5.5m	5.75m3/s at 5.5m	-	200kW	250kW	310kW	340kW	400kW	500kW	600kW			
		303 rpm	4.5m3/s at 7m	5.5m3/s at 6m	6.2m3/s at 7m	6.2m3/s at 6.5m	-	250kW	310kW	340kW	400kW	500kW	600kW				
		337 rpm	5m3/s at 8m	6m3/s at 8m	7m3/s at 8m	7m3/s at 8m	-	250kW	310kW	340kW	400kW	440kW	500kW	600kW			
		380 rpm	5.5m3/s at 10m	6.5m3/s at 10m	7m3/s at 9m	7.5m3/s at 9.5m	-	400kW	450kW	600kW							
		433 rpm	6m3/s at 13m	7m3/s at 12m	7.5m3/s at 12m	8m3/s at 12m	-	500kW	600kW								
	4 pole	253 rpm	4m3/s at 5m	4.5m3/s at 4.5m	4.5m3/s at 4m	5.2m3/s at 4.5m	-	190kW	230kW	290kW	375kW						
		303 rpm	4.5m3/s at 7m	5.5m3/s at 6m	6.2m3/s at 7m	6.2m3/s at 6.5m	-	230kW	290kW	375kW							
		337 rpm	5m3/s at 8m	6m3/s at 8m	7m3/s at 8m	7m3/s at 8m	-	290kW	375kW								
		377 rpm	5.5m3/s at 10m	6.5m3/s at 10m	7m3/s at 9m	7.5m3/s at 9.5m	-	375kW									
7650	8 pole	152 rpm	-	5.5m3/s at 2.5m	5.5m3/s at 2.5m	6.5m3/s at 2.5m	6.5m3/s at 2.5m	170kW	230kW	300kW	390kW						
		168 rpm	-	6m3/s at 3m	6m3/s at 3m	7m3/s at 3m	7m3/s at 3m	300kW	390kW								
		188 rpm	-	6.75m3/s at 3.7m	7.75m3/s at 4m	7.75m3/s at 4m	8m3/s at 3.5m	170kW	230kW	300kW	325kW	390kW	430kW				
		217 rpm	-	7.75m3/s at 5m	9m3/s at 5.5m	9m3/s at 5m	9.5m3/s at 5m	170kW	230kW	290kW	390kW	430kW	500kW				
		227 rpm	-	8m3/s at 5.5m	8.5m3/s at 5.5m	9m3/s at 5.5m	10m3/s at 5m	300kW	390kW	430kW	500kW						
		252 rpm	-	8.5m3/s at 7m	9m3/s at 6.5m	9.5m3/s at 6.5m	10.5m3/s at 6m	300kW	350kW	430kW	500kW						
	6 pole	283 rpm	-	9.5m3/s at 8.5m	10m3/s at 8m	10.5m3/s at 8m	11.5m3/s at 7m	430kW	500kW								
		169 rpm	-	6m3/s at 3m	6m3/s at 3m	7m3/s at 3m	7m3/s at 3m	200kW	250kW	310kW	340kW	400kW					
		203 rpm	-	7.25m3/s at 4.5m	8.25m3/s at 5m	8 m3/s at 4.5m	8.5m3/s at 4m	250kW	310kW	340kW	400kW	460kW					
		226 rpm	-	8m3/s at 5.5m	8.5m3/s at 5.5m	9m3/s at 5.5m	10m3/s at 5m	250kW	310kW	340kW	380kW	500kW	600kW				
		252 rpm	-	9m3/s at 7m	9.5m3/s at 6.5m	10m3/s at 6.5m	10.5m3/s at 6m	310kW	340kW	400kW	470kW	600kW					
		289 rpm	-	9.5m3/s at 8.5m	10m3/s at 8m	10.5m3/s at 8m	11.5m3/s at 7m	380kW	500kW	600kW							
		303 rpm	-	10m3/s at 9.5m	10.5m3/s at 8.5m	11.5m3/s at 9m	12m3/s at 8.5m	500kW	600kW								
		337 rpm	-	10.5m3/s at 11m	12m3/s at 12m	13m3/s at 11.5m	13m3/s at 10m	600kW									
	4 pole																
		253 rpm	-	8.5m3/s at 7m	9m3/s at 6.5m	9.5m3/s at 6.5m	10.5m3/s at 6m	375kW									

Flygt Hydroturbine Notes, Limitations, and Recommendations

- Aluminum Bronze Blades can be used in applications up to 15 meters of head. Heads over 15 meters require stainless steel blades
- 4 Pole generators should not be used unless a customer has an existing 4 pole generator. In general, Flygt turbines are quiet machines. 4 Pole generators are louder than the other options though.
- A general rule for selecting hydroturbine is that the duty point head should not be less than 85% of the best efficiency point head. If the head is below this value, station design becomes more important
- Gear box driven turbines must be installed vertically and cannot be used as a pump. The cooling system for the gear box is the limiting factor for this.
- Direct driven turbines can be installed at an angle or horizontal and can also be used as a pump as well as a turbine.
- Where possible, direct driven units should be used. They have an efficiency, mechanical, size and financial advantage over gear driven units.
- The two smallest hydroturbines (7556, 7570) do not have automatically adjustable blades. Control of the overall flow needs to be handled by another component
- Manually adjustable blades use washers to set their angles. An extra set of washers can be kept to manually change the angle from a high flow to a low flow setting to handle different seasonal flows
- Use PECU (CupC) to give power guarantees and create single angle turbine curves
- In some cases there is more than one way to reach the required flow and head (for instance a 6 pole or 8 pole generator). In these cases one generator and/or gear box may give better efficiencies creating a better solution for the customer





TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7556

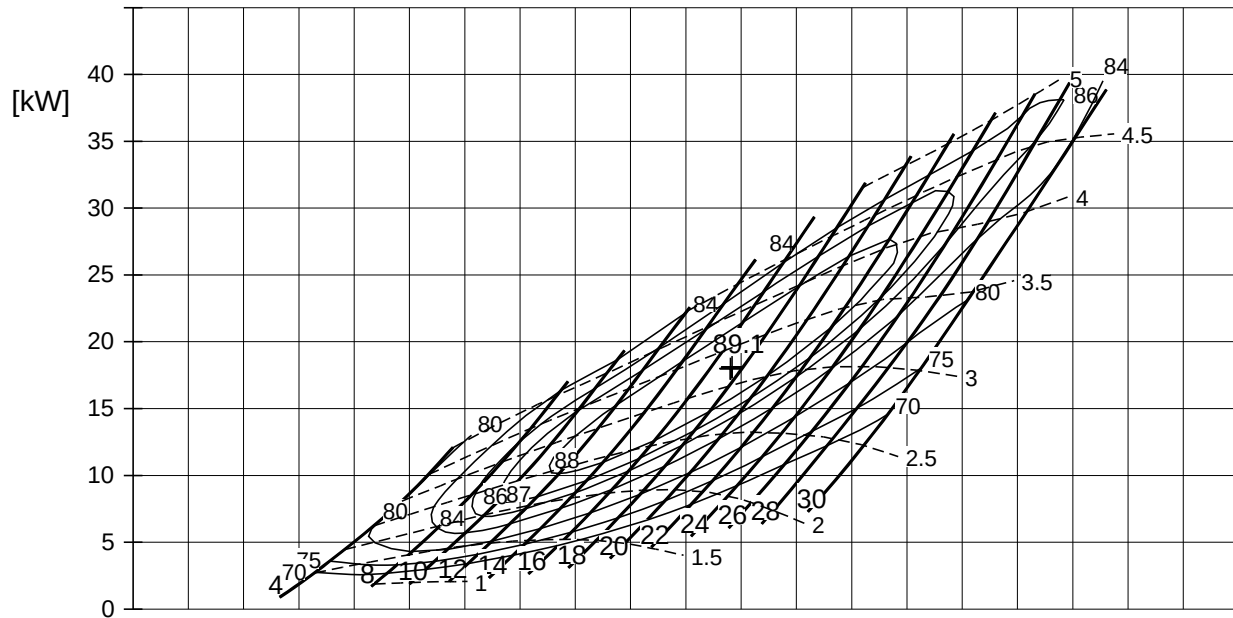
CURVE NO

53- 440C4E

DATE
2016-01-26ISSUE
1FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
440 RPMIMPELLER/HUB DIAMETER
550 / 260 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
705
735GENERATOR
43-30-14GA
43-44-14AAPOLES
14
14GEN. POWER
40 kW
60

POWER (SHAFT)

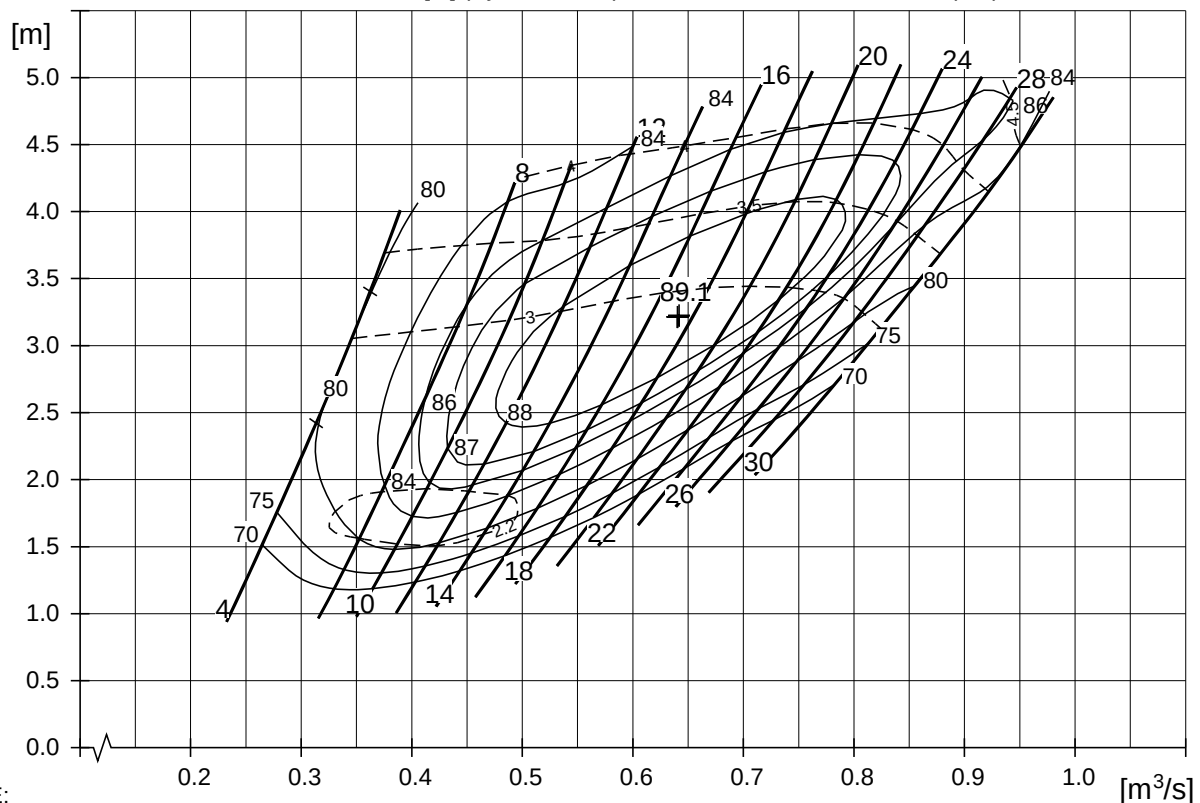
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7556

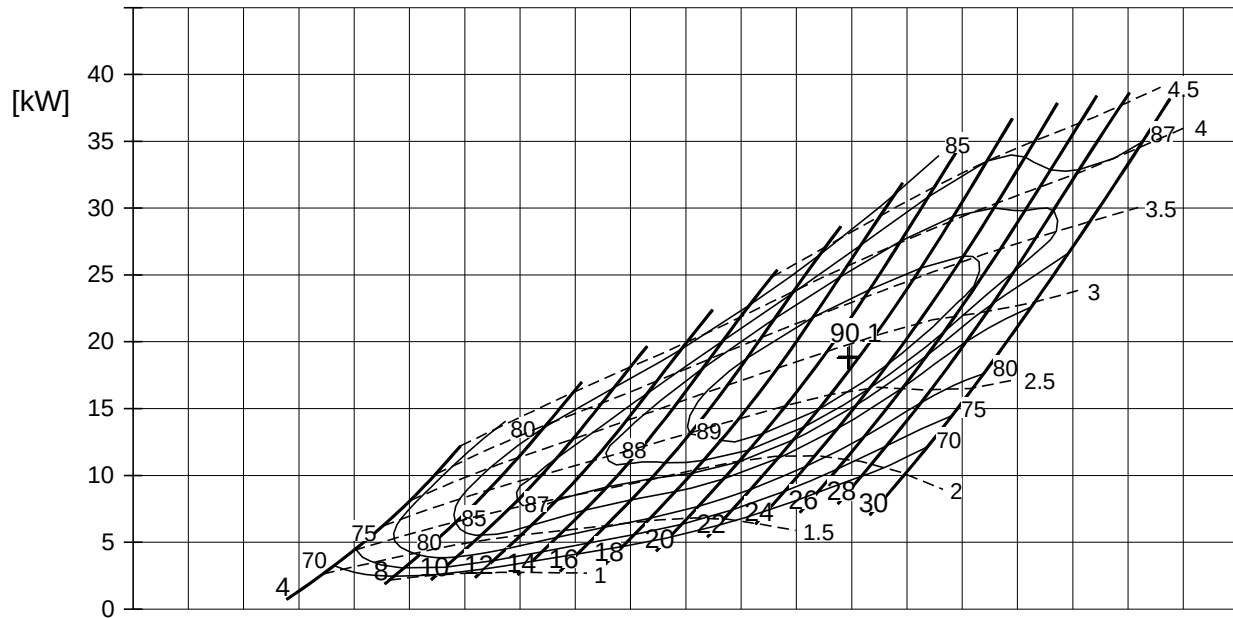
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53- 440C4E

DATE
2016-01-26ISSUE
1FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
440 RPMIMPELLER/HUB DIAMETER
550 / 260 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
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735GENERATOR
43-30-14GA
43-44-14AAPOLES
14
14GEN. POWER
40 kW
60

POWER (SHAFT)

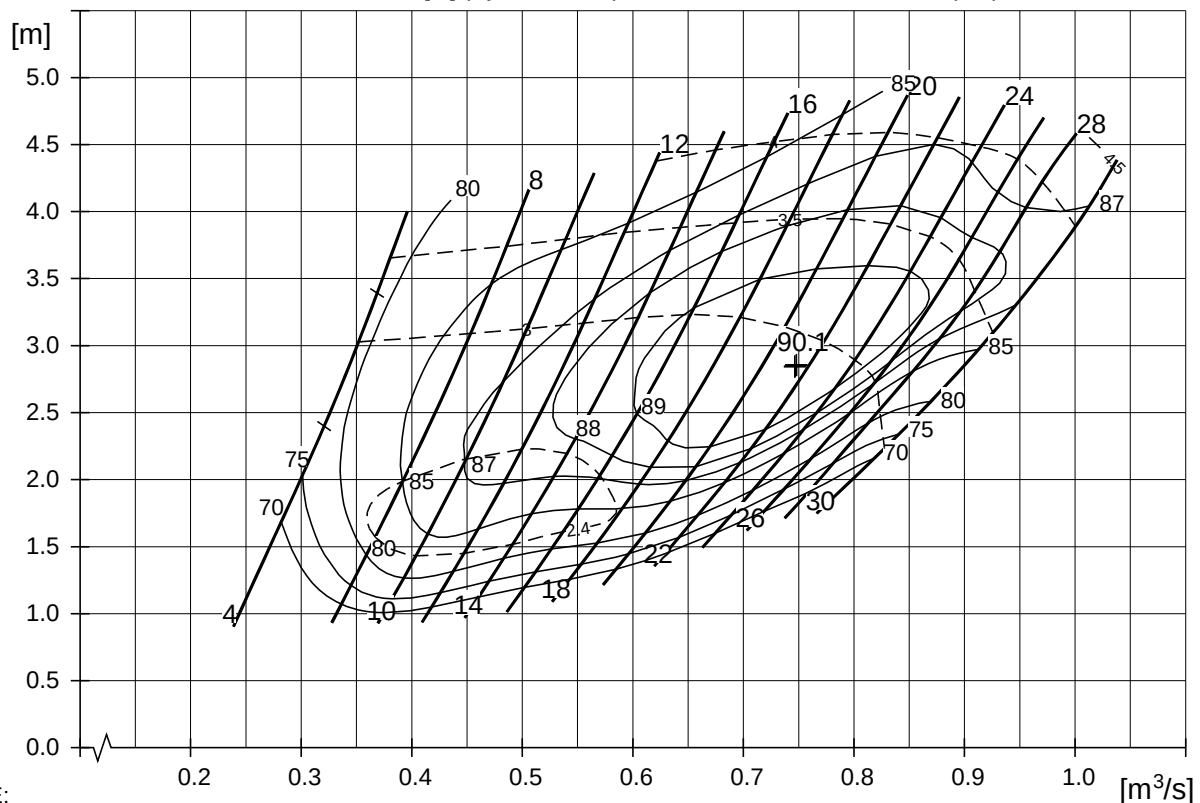
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7556

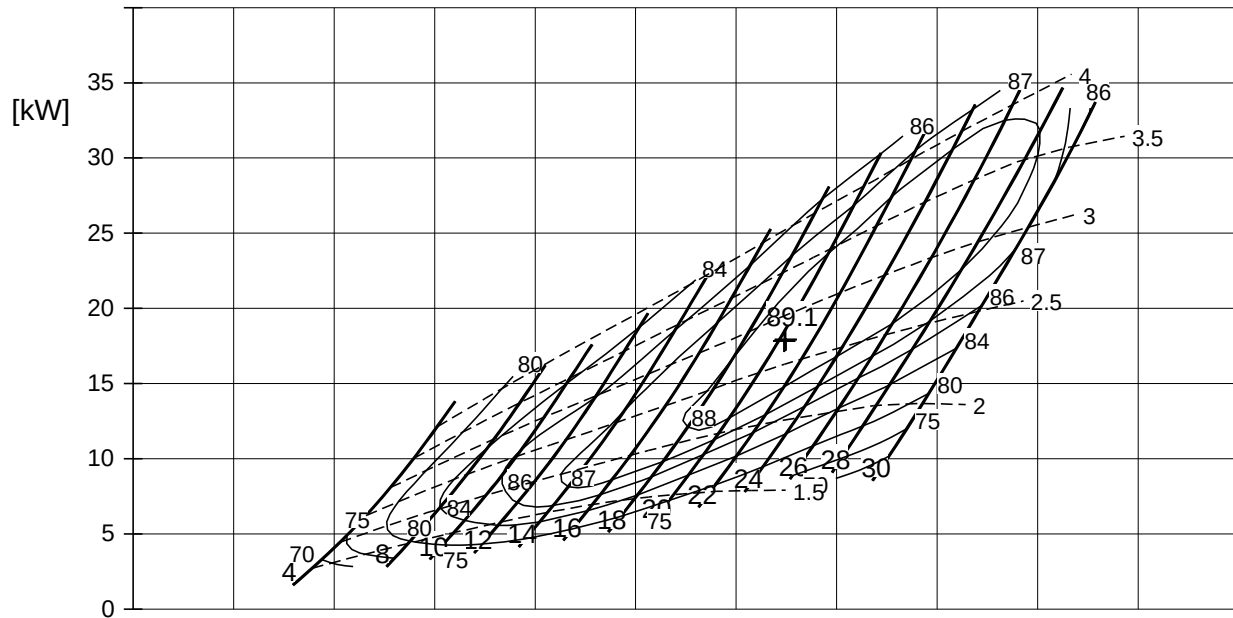
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DATE
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1FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
440 RPMIMPELLER/HUB DIAMETER
550 / 260 mmGUIDE VANE(S)
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EVERY deg FROM 4 TO 30 degDRIVE UNIT
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735GENERATOR
43-30-14GA
43-44-14AAPOLES
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14GEN. POWER
40 kW
60

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)





TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7556

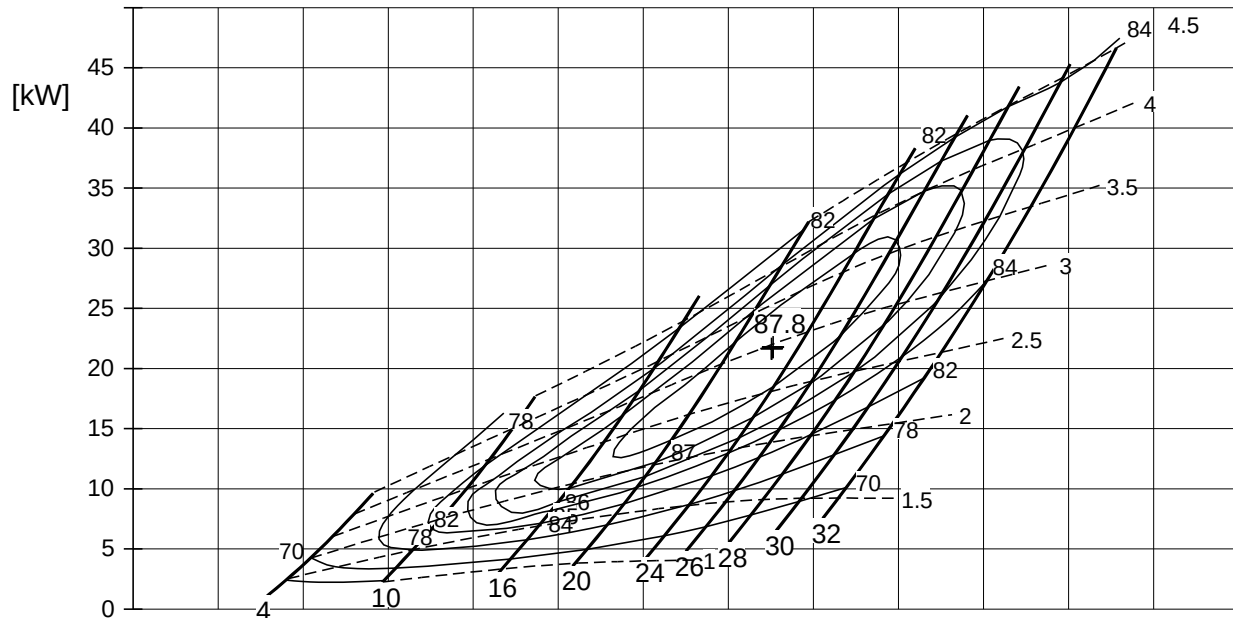
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1FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
440 RPMIMPELLER/HUB DIAMETER
550 / 260 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 degDRIVE UNIT
705
735GENERATOR
43-30-14GA
43-44-14AAPOLES
14
14GEN. POWER
40 kW
60

POWER (SHAFT)

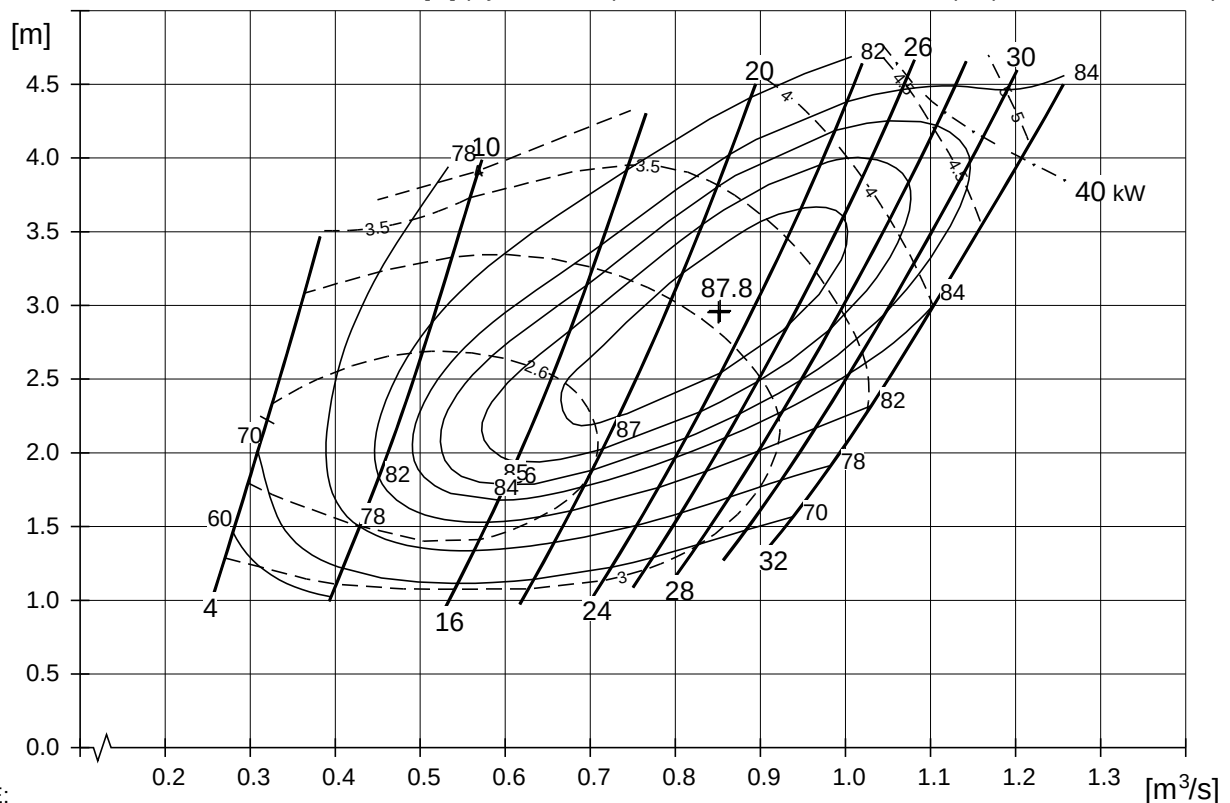
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7556

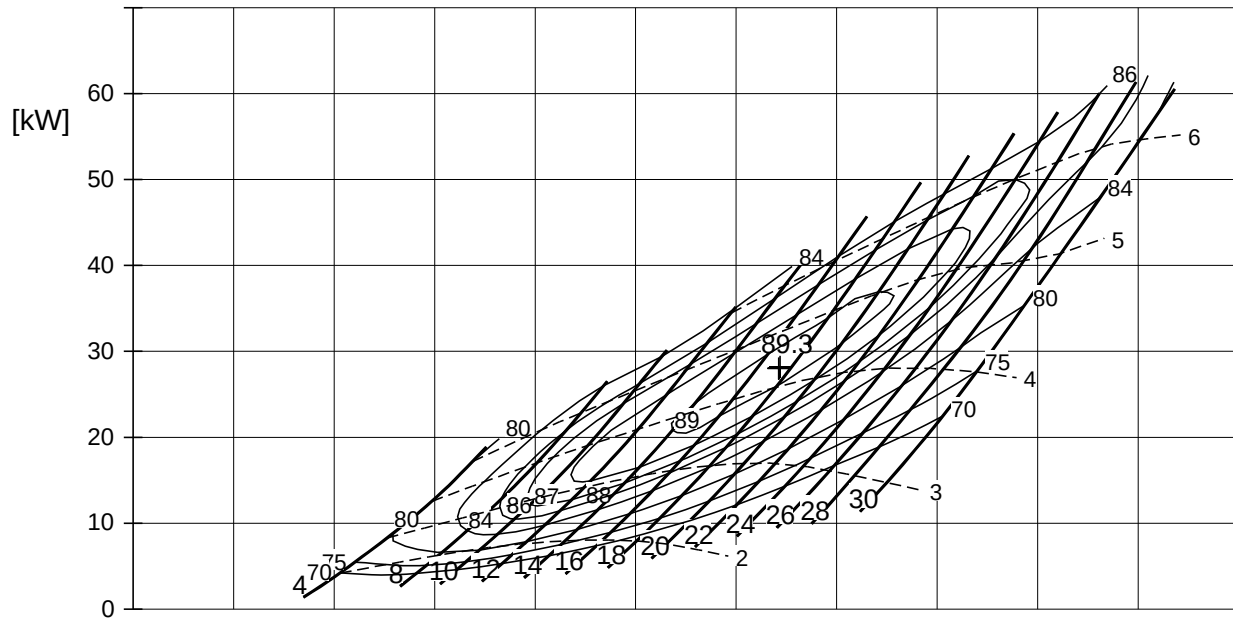
CURVE NO

53- 510C4E

DATE
2016-01-26ISSUE
1FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
510 RPMIMPELLER/HUB DIAMETER
550 / 260 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
705
735GENERATOR
43-30-12GA
43-44-12GAPOLES
12
12GEN. POWER
45 kW
70

POWER (SHAFT)

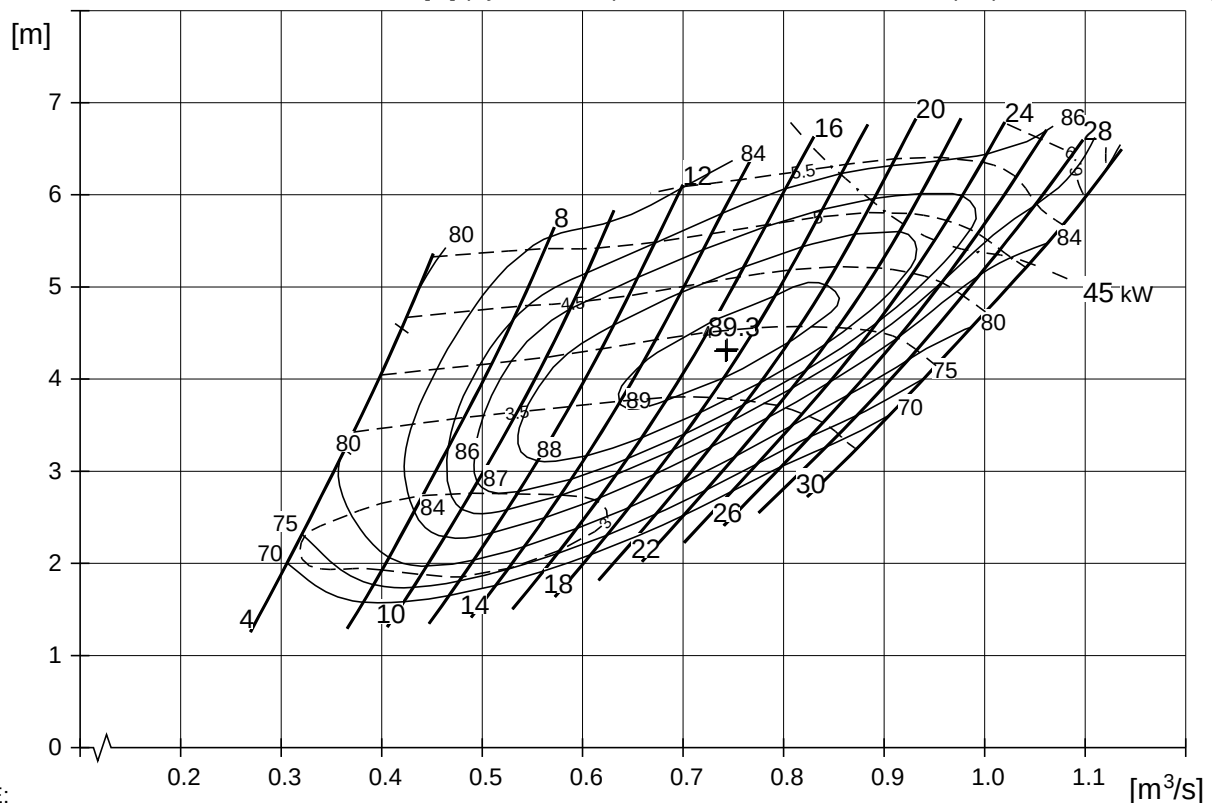
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7556

CURVE NO

53- 510C4E

DATE
2016-01-26

ISSUE
1

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
510 RPM

IMPELLER/HUB DIAMETER
550 / 260 mm

GUIDE VANE(S)
57 deg

NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT
705
735

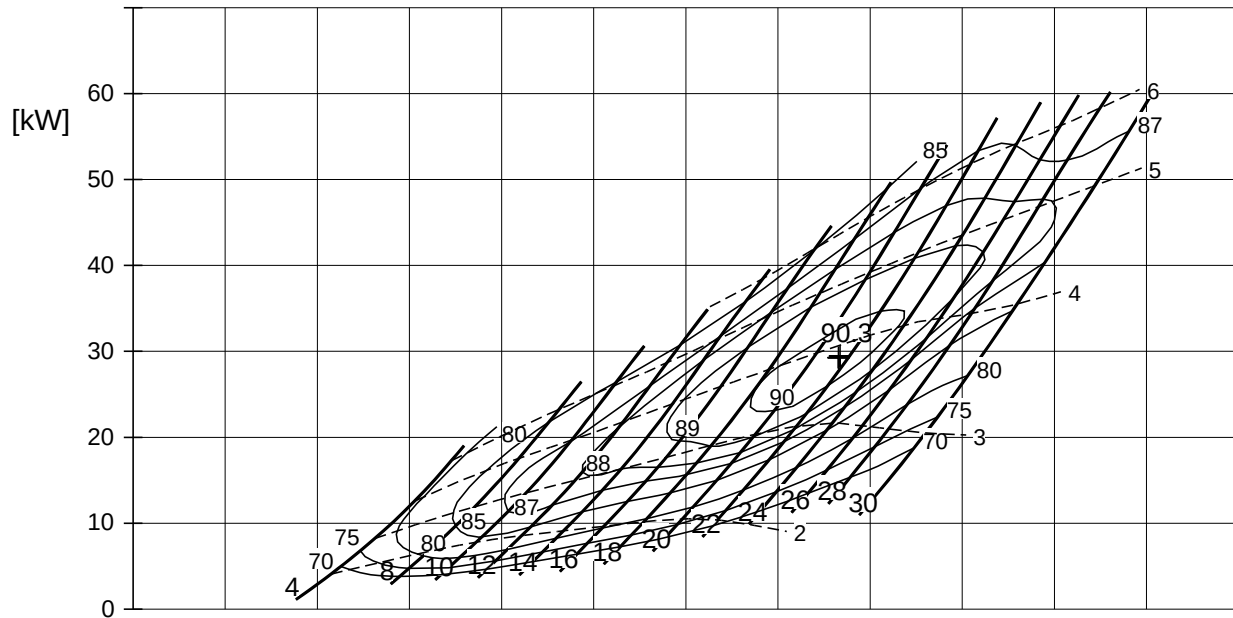
GENERATOR
43-30-12GA
43-44-12GA

POLES
12
12

GEN. POWER
45 kW
70

POWER (SHAFT)

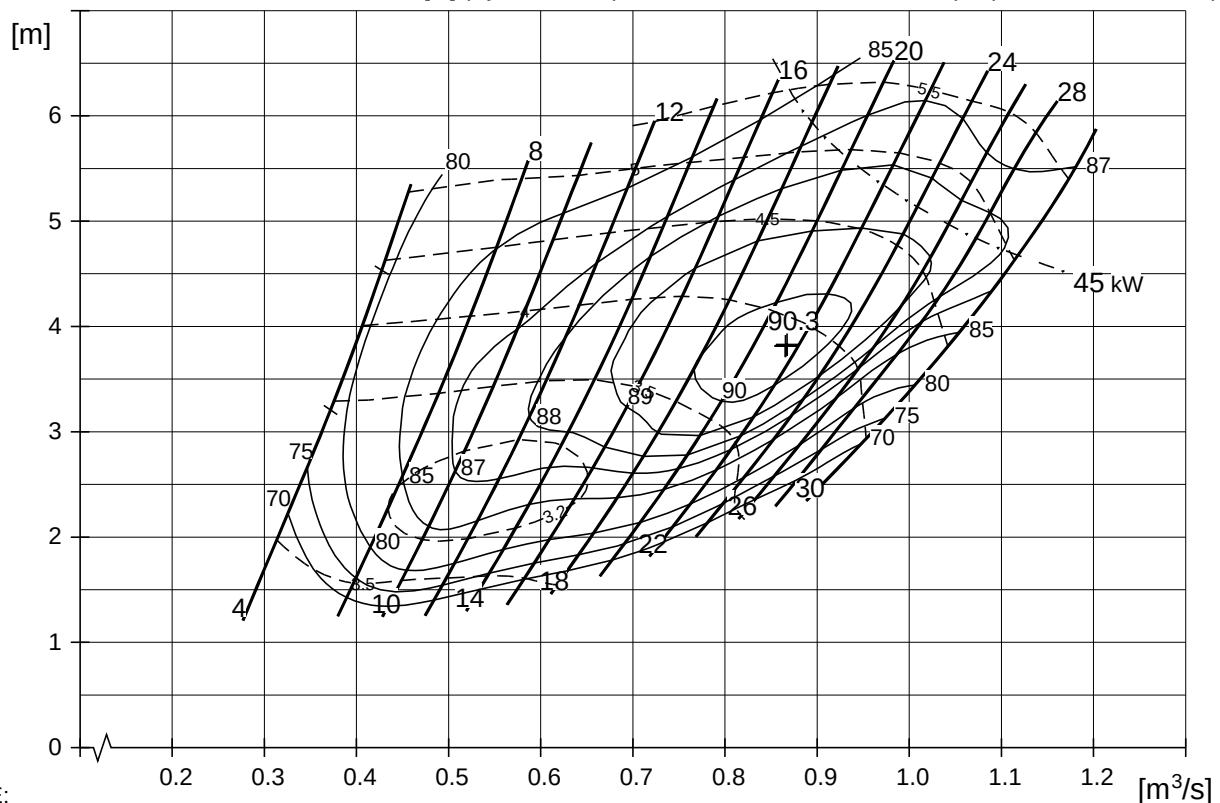
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

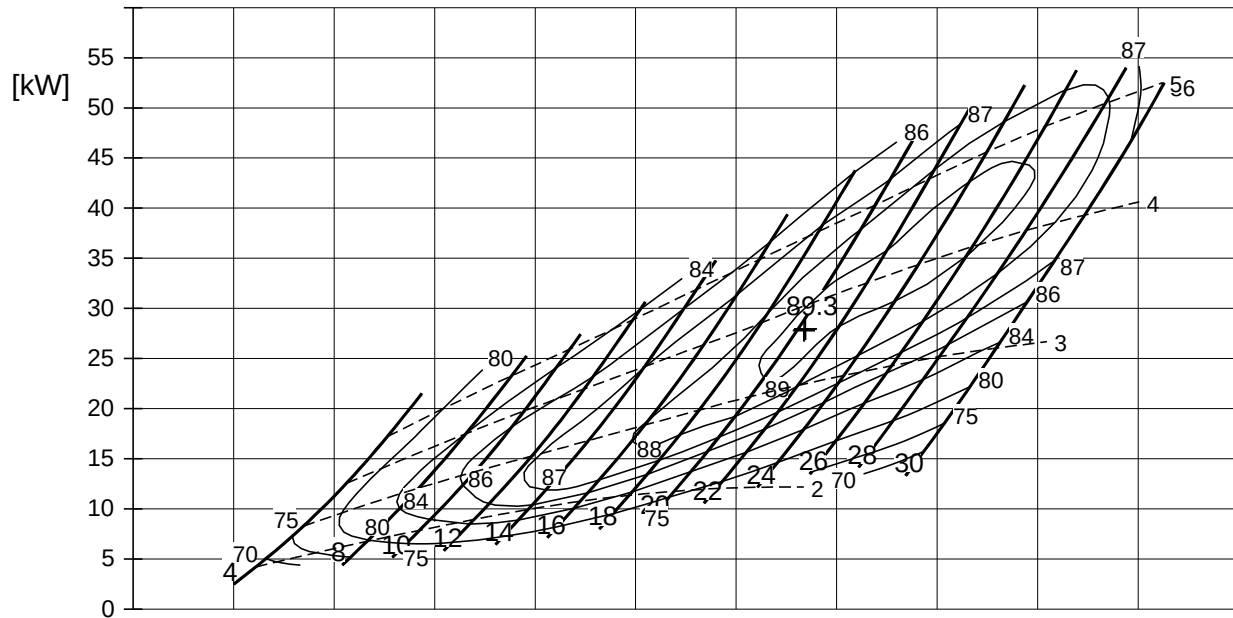
EL 7556

CURVE NO

53- 510C4EDATE
2016-01-26ISSUE
1FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
510 RPMIMPELLER/HUB DIAMETER
550 / 260 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** degDRIVE UNIT
705
735GENERATOR
43-30-12GA
43-44-12GAPOLES
12
12GEN. POWER
45 kW
70

POWER (SHAFT)

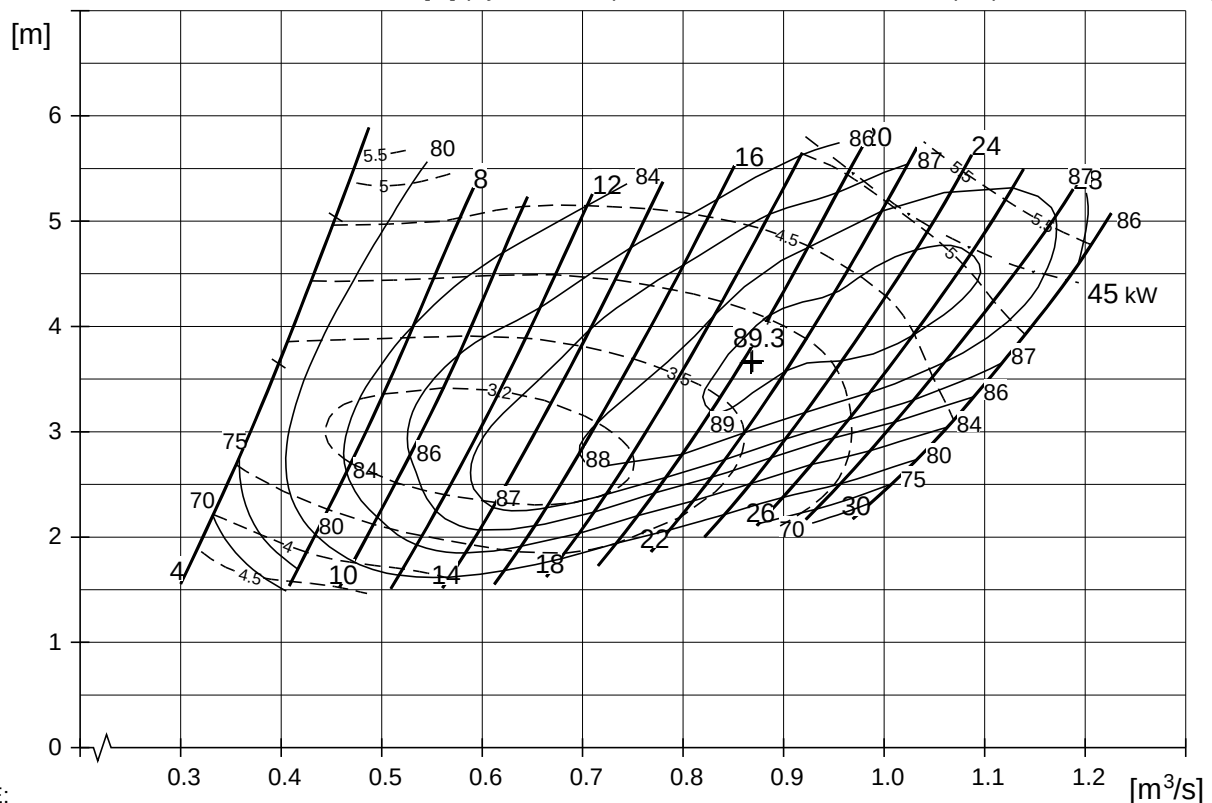
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7556

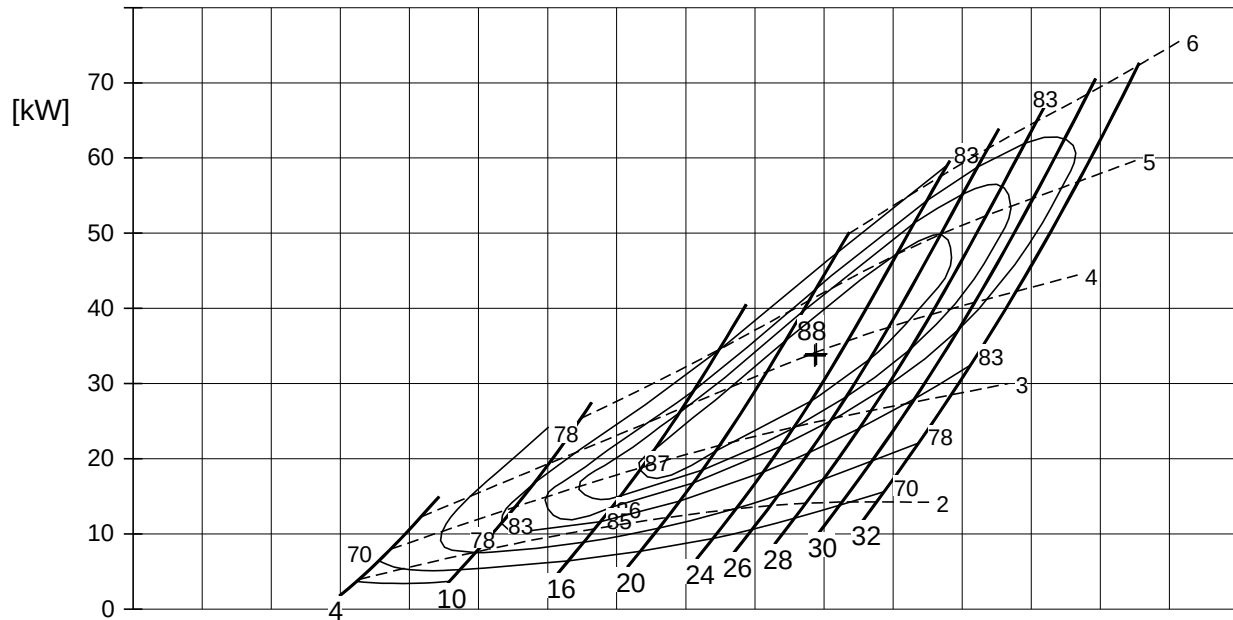
CURVE NO

53- 510C4E

DATE
2016-01-26ISSUE
1FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
510 RPMIMPELLER/HUB DIAMETER
550 / 260 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 degDRIVE UNIT
705
735GENERATOR
43-30-12GA
43-44-12GAPOLES
12
12GEN. POWER
45 kW
70

POWER (SHAFT)

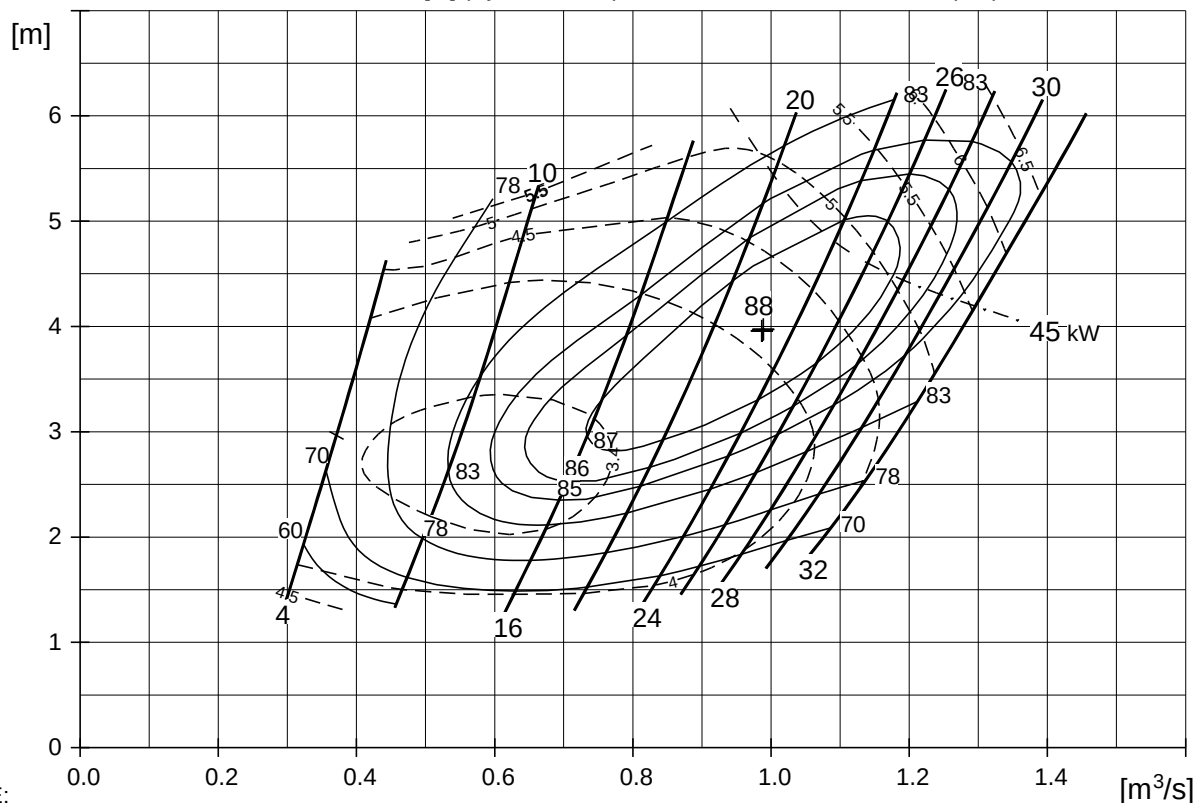
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7556

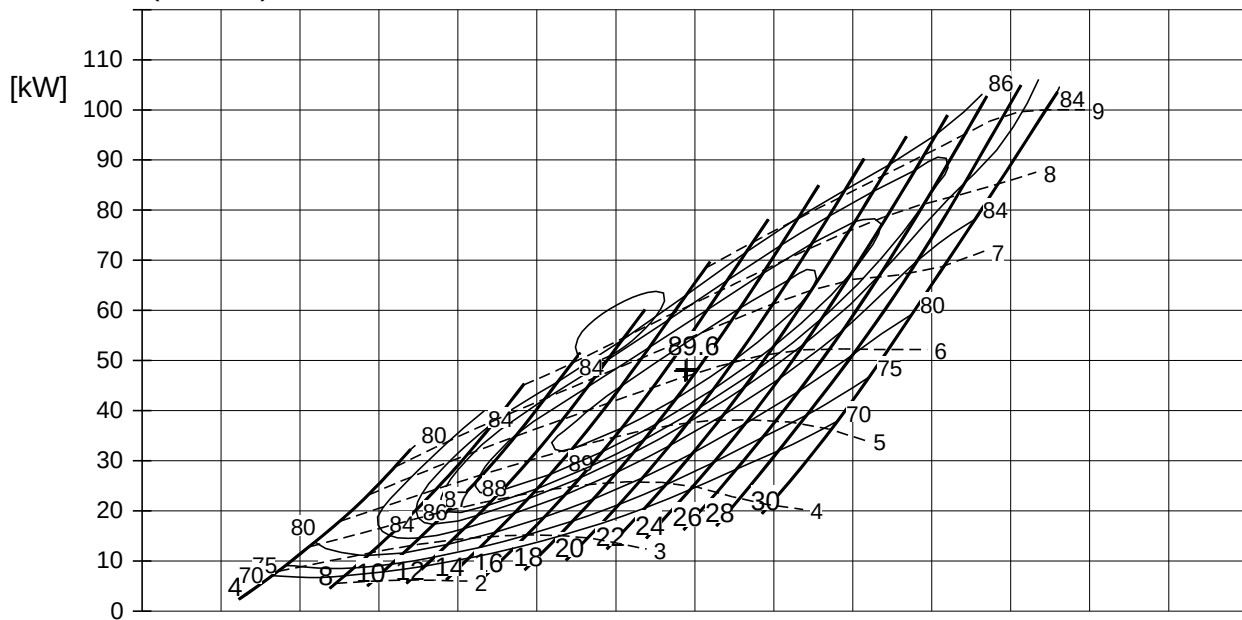
CURVE NO

53- 610C4E

DATE
2016-01-26ISSUE
1FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
610 RPMIMPELLER/HUB DIAMETER
550 / 260 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
705
735GENERATOR
43-30-10GA
43-44-10FAPOLES
10
10GEN. POWER
70 kW
100

POWER (SHAFT)

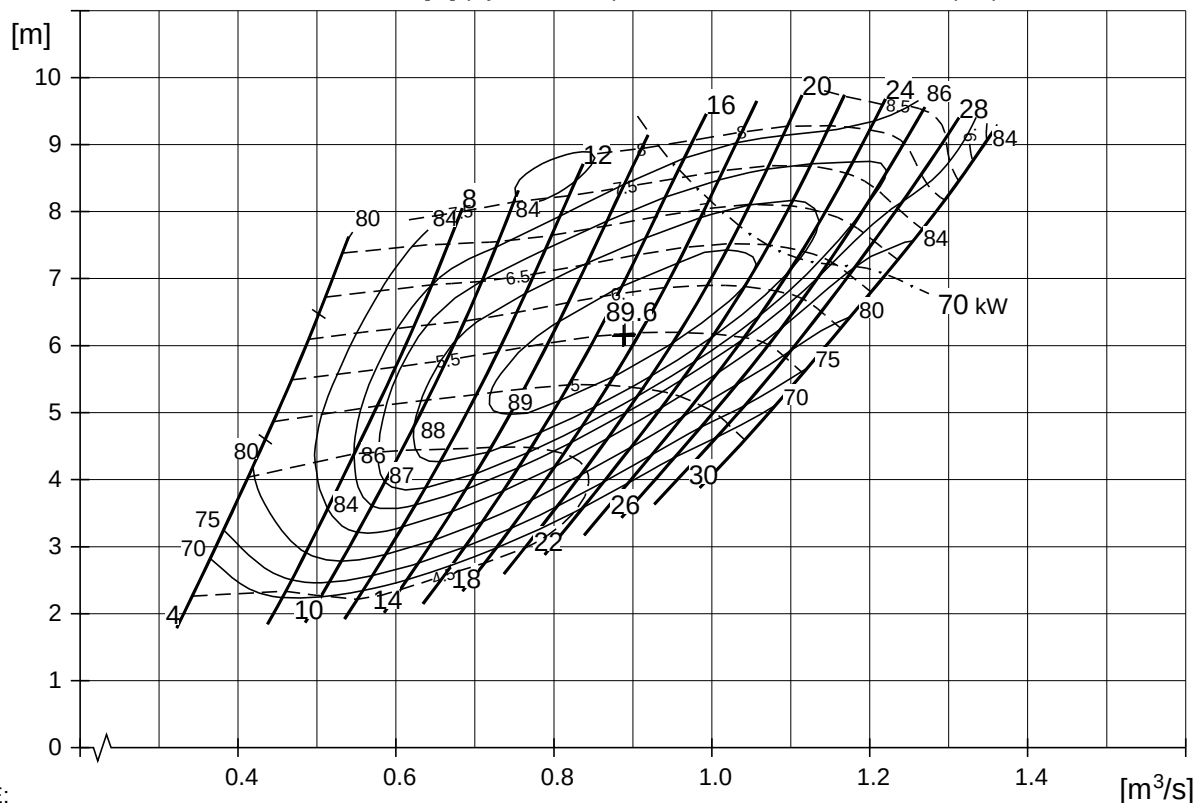
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7556

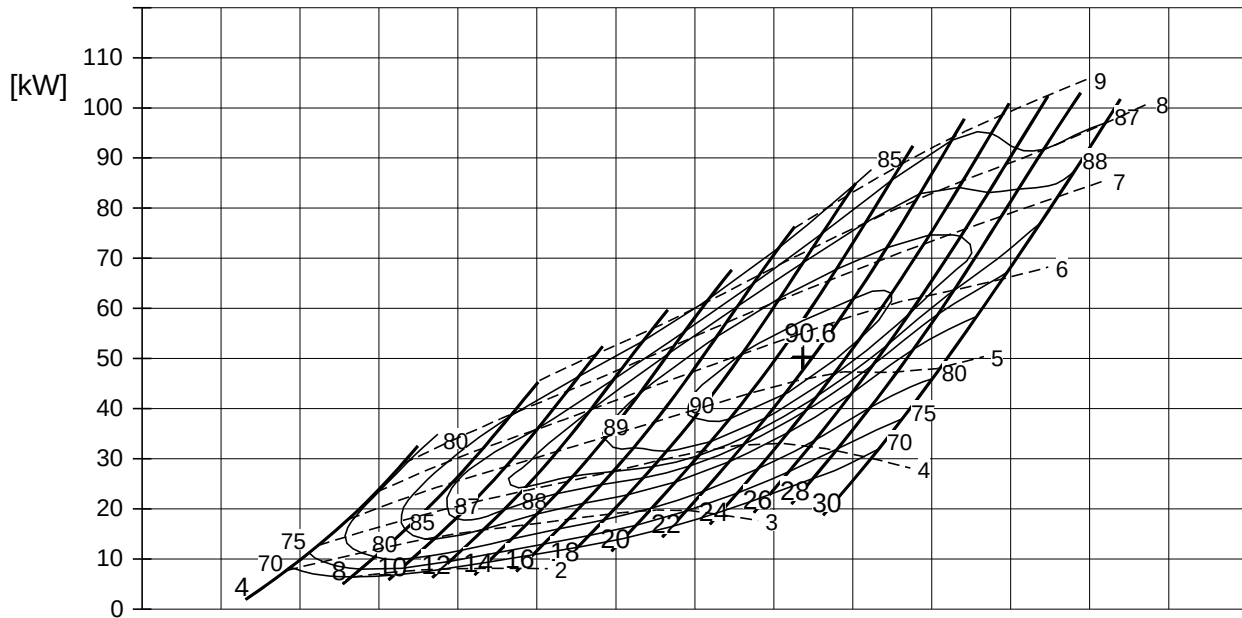
CURVE NO

53- 610C4E

DATE
2016-01-26ISSUE
1FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
610 RPMIMPELLER/HUB DIAMETER
550 / 260 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
705
735GENERATOR
43-30-10GA
43-44-10FAPOLES
10
10GEN. POWER
70 kW
100

POWER (SHAFT)

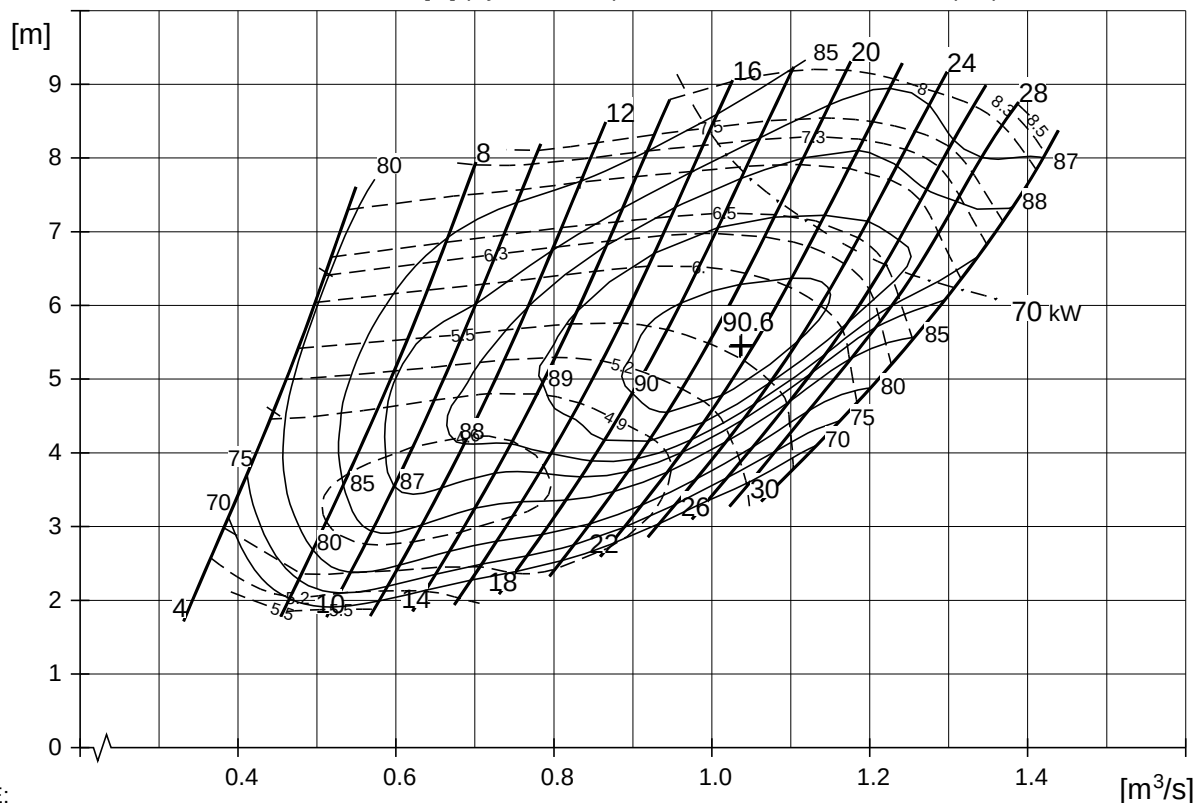
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

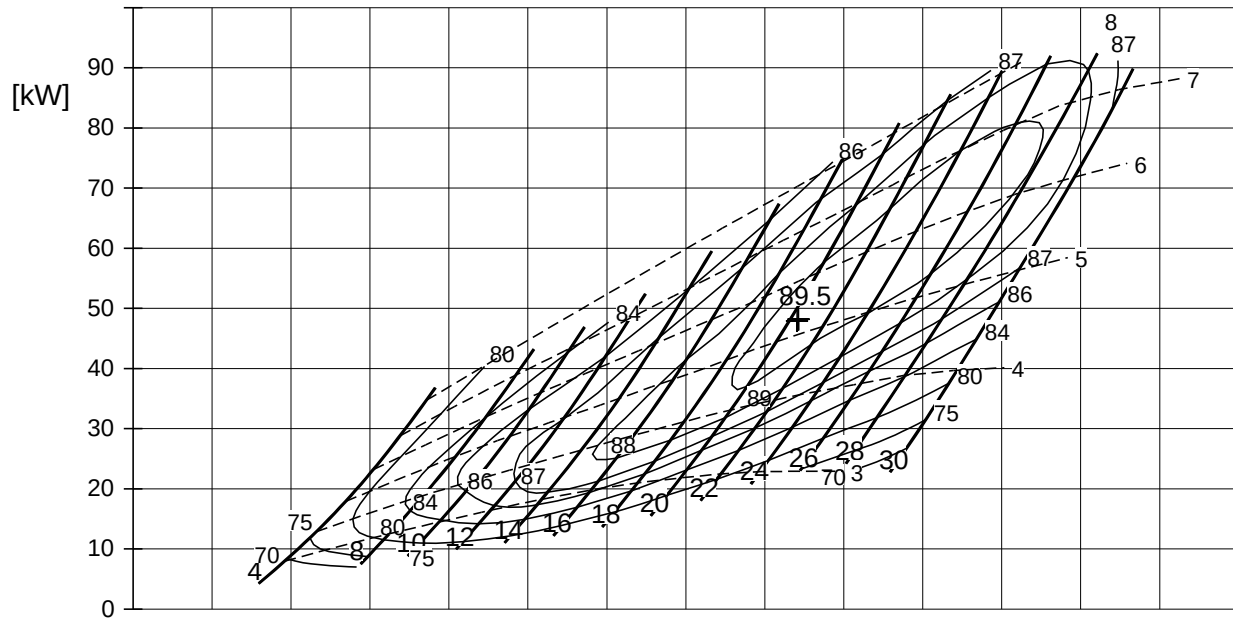
EL 7556

CURVE NO

53- 610C4EDATE
2016-01-26ISSUE
1FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
610 RPMIMPELLER/HUB DIAMETER
550 / 260 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** degDRIVE UNIT
705
735GENERATOR
43-30-10GA
43-44-10FAPOLES
10
10GEN. POWER
70 kW
100

POWER (SHAFT)

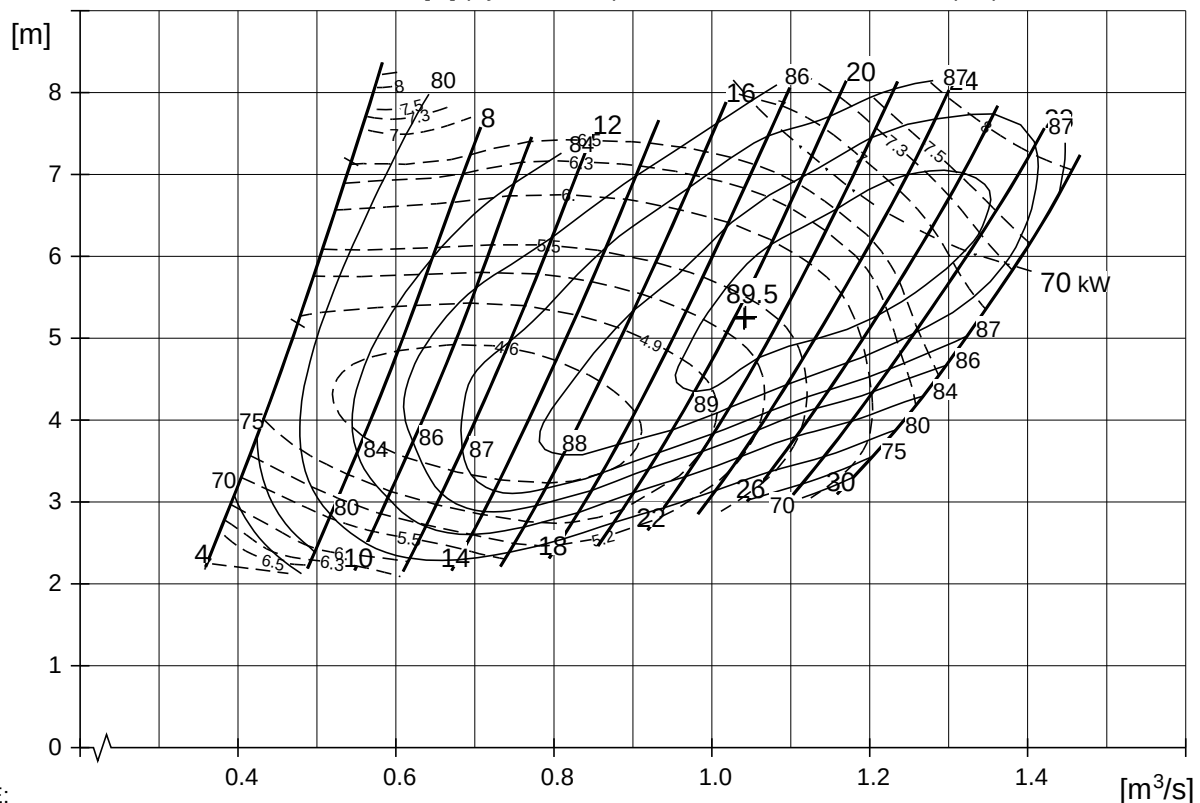
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7556

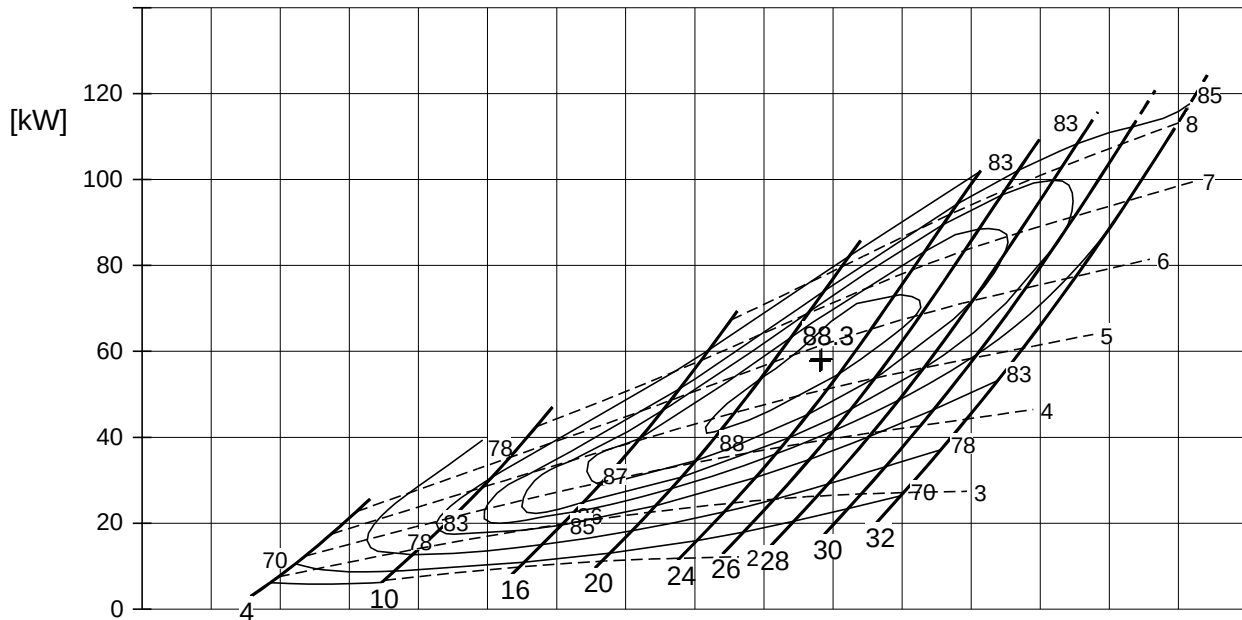
CURVE NO

53- 610C4E

DATE
2016-01-26ISSUE
1FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
610 RPMIMPELLER/HUB DIAMETER
550 / 260 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 degDRIVE UNIT
705
735GENERATOR
43-30-10GA
43-44-10FAPOLES
10
10GEN. POWER
70 kW
100

POWER (SHAFT)

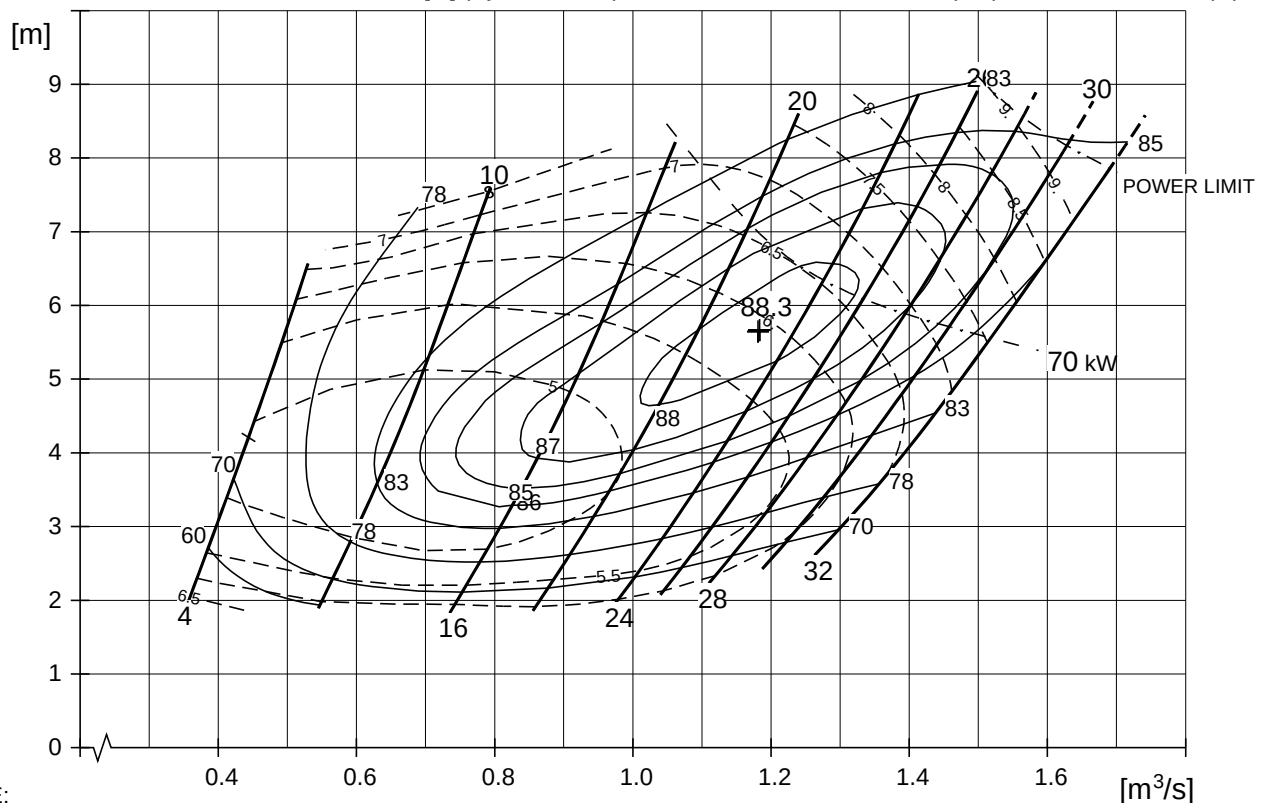
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7556

CURVE NO

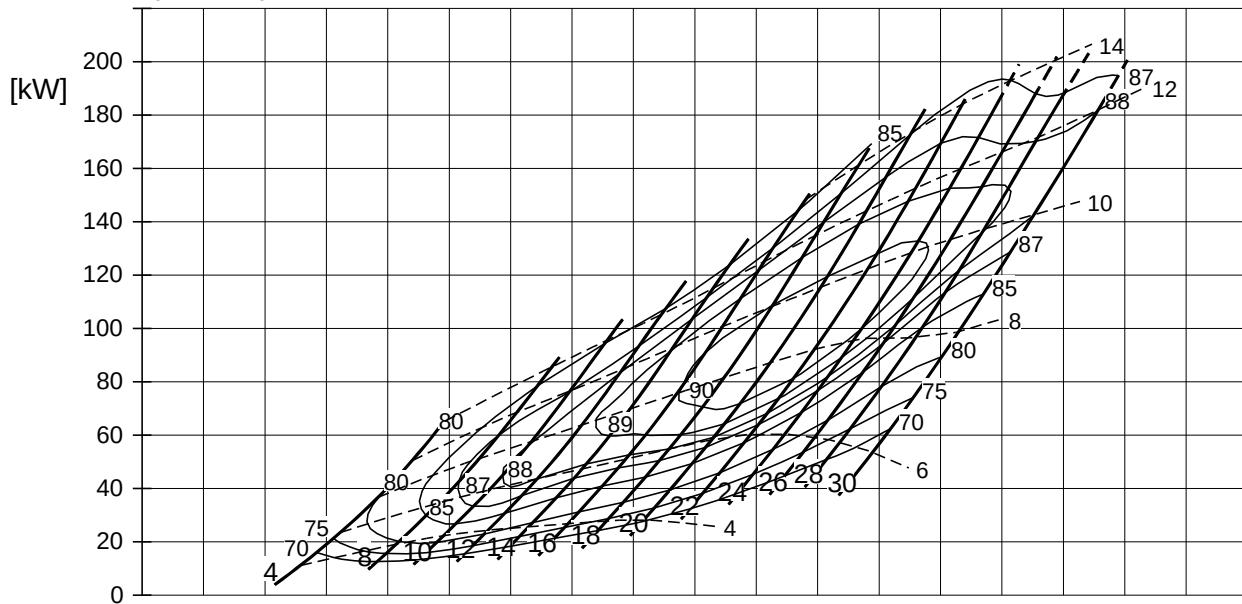
53- 765 C4E

DATE
2016-01-26ISSUE
1FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
765 RPMIMPELLER/HUB DIAMETER
550 / 260 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
705	43-30-8GA	8	100 kW
735	43-44-8AA	8	140
765	43-56-8AA	8	170

POWER (SHAFT)

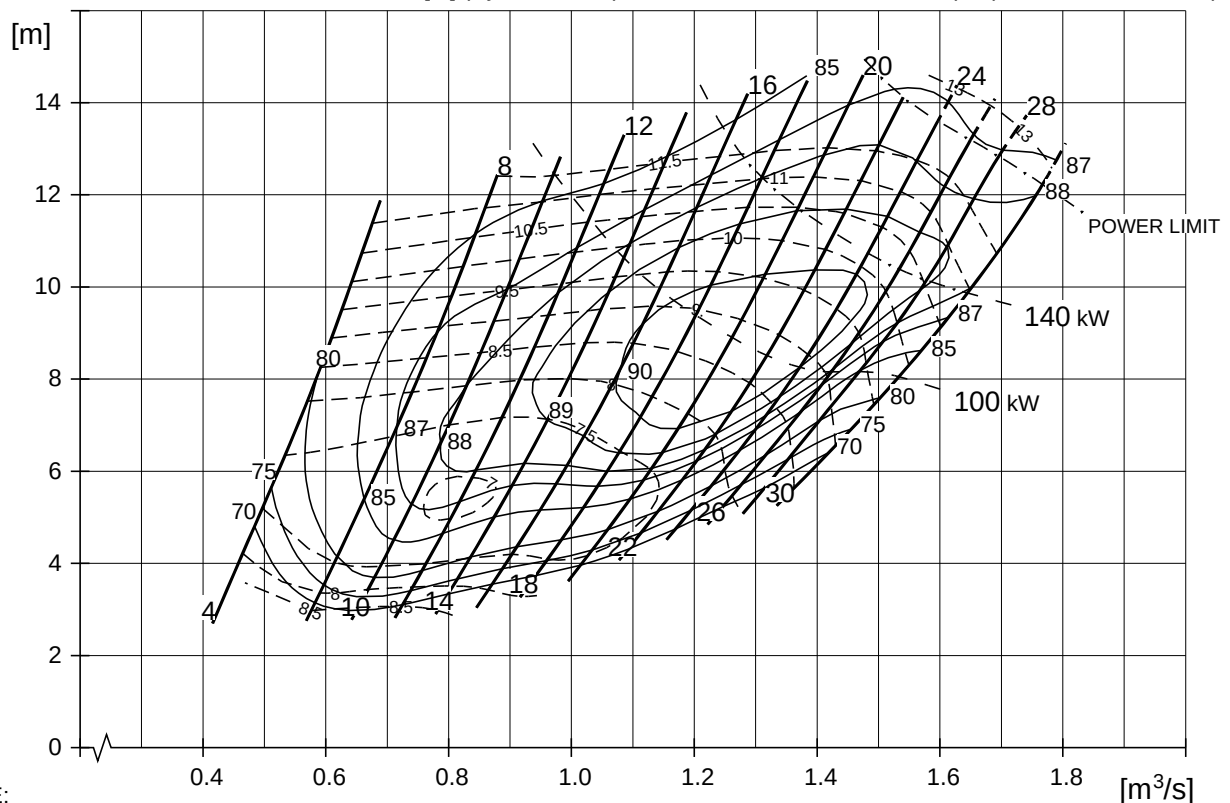
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7556

CURVE NO

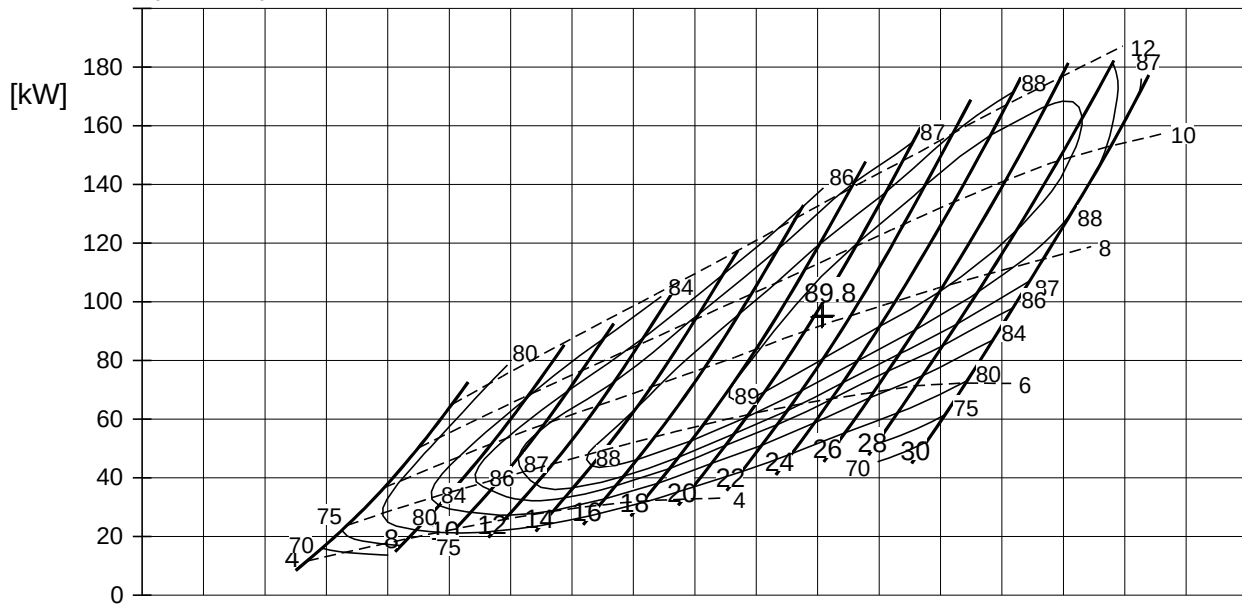
53- 765 C4E

DATE
2016-01-26ISSUE
1FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
765 RPMIMPELLER/HUB DIAMETER
550 / 260 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
705	43-30-8GA	8	100 kW
735	43-44-8AA	8	140
765	43-56-8AA	8	170

POWER (SHAFT)

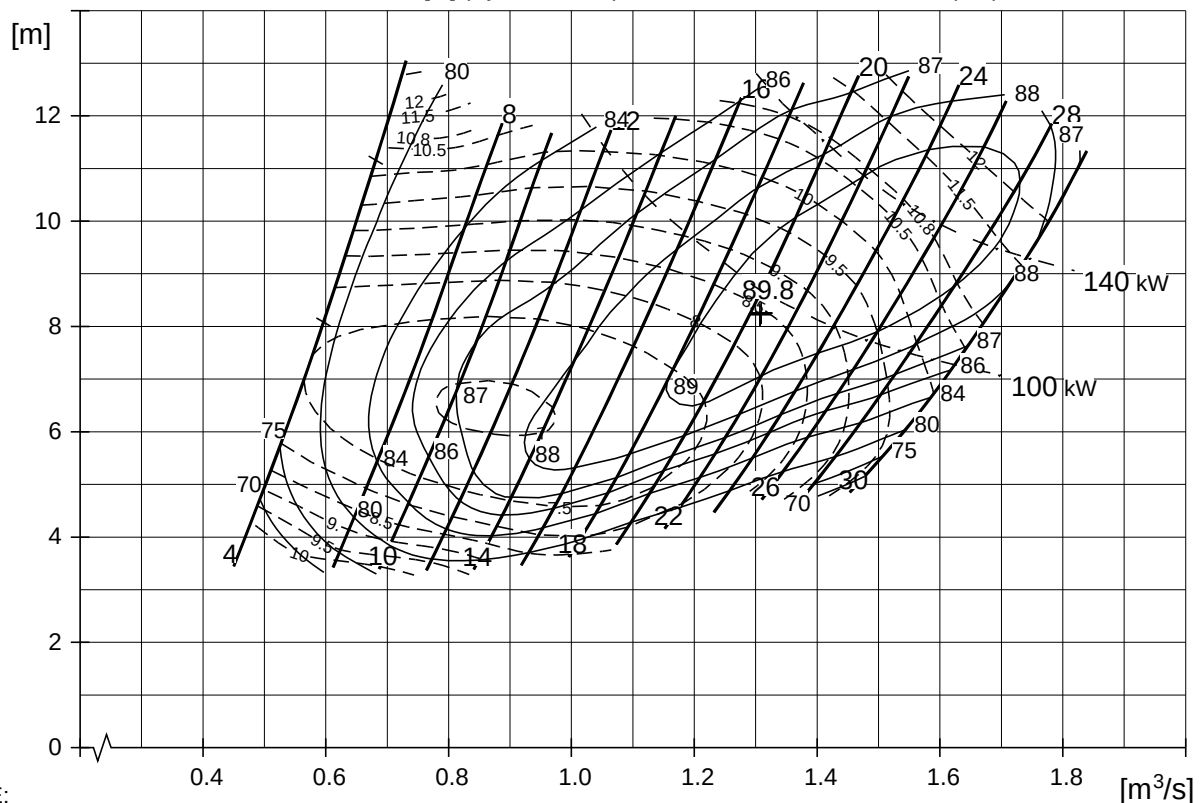
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7556

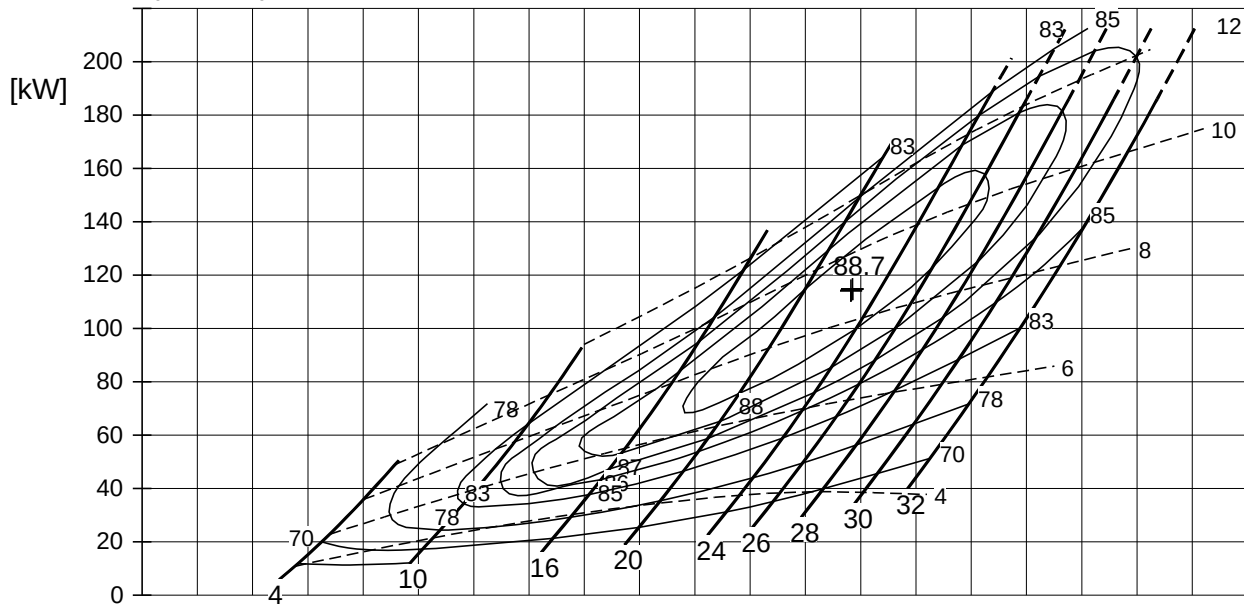
CURVE NO

53- 765 C4EDATE
2016-01-26ISSUE
1FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
765 RPMIMPELLER/HUB DIAMETER
550 / 260 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **32** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
705	43-30-8GA	8	100 kW
735	43-44-8AA	8	140
765	43-56-8AA	8	170

POWER (SHAFT)

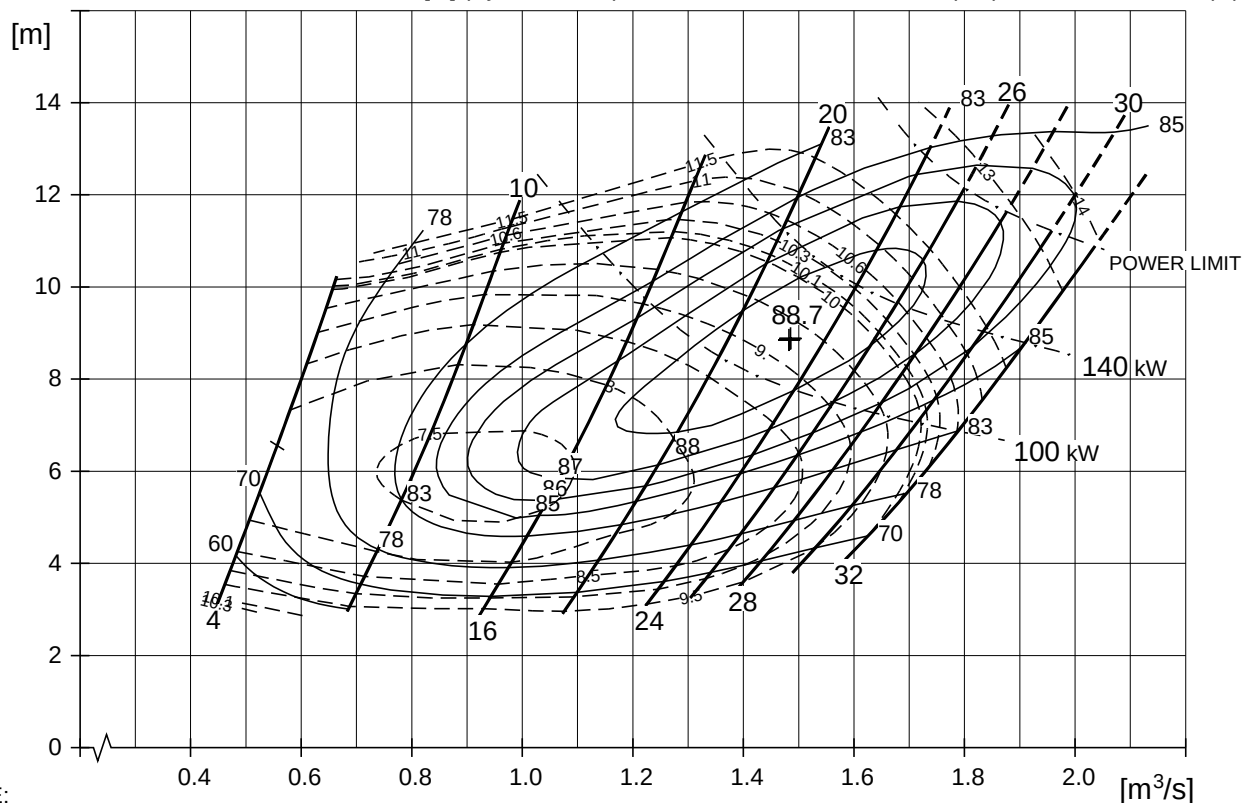
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE**FLOW**



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7570

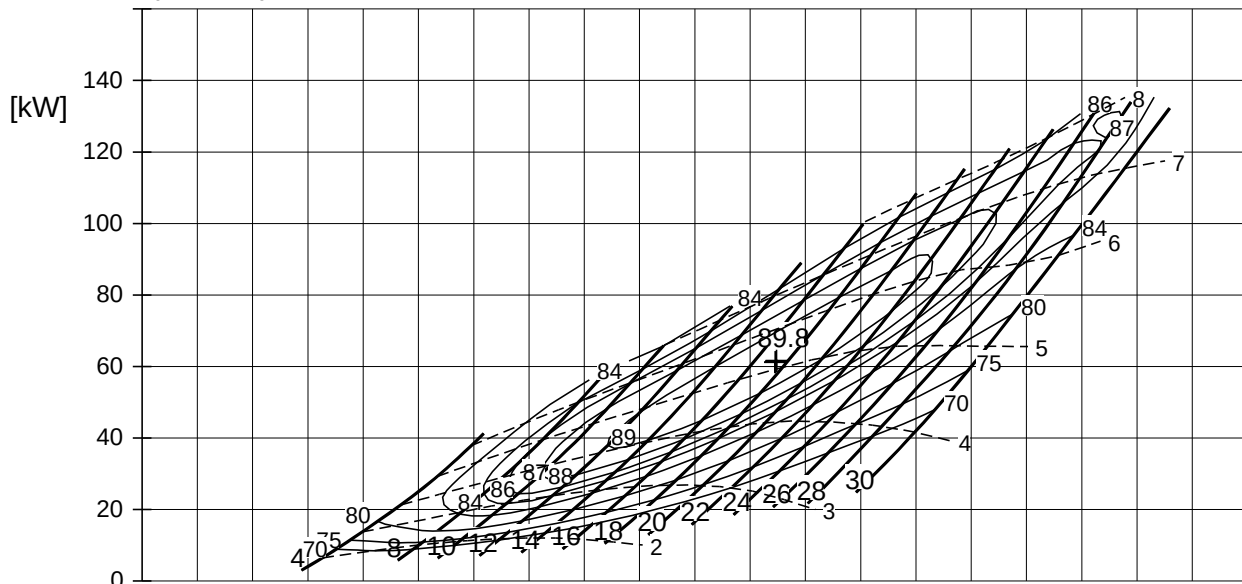
CURVE NO

53- 440C4EDATE
2016-01-25ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
440 RPMIMPELLER/HUB DIAMETER
700 / 320 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
765	43-56-14AA	14	70 kW
805	54-38-14AA	14	90
835	54-52-14AA	14	125
865	54-66-14AA	14	155

POWER (SHAFT)

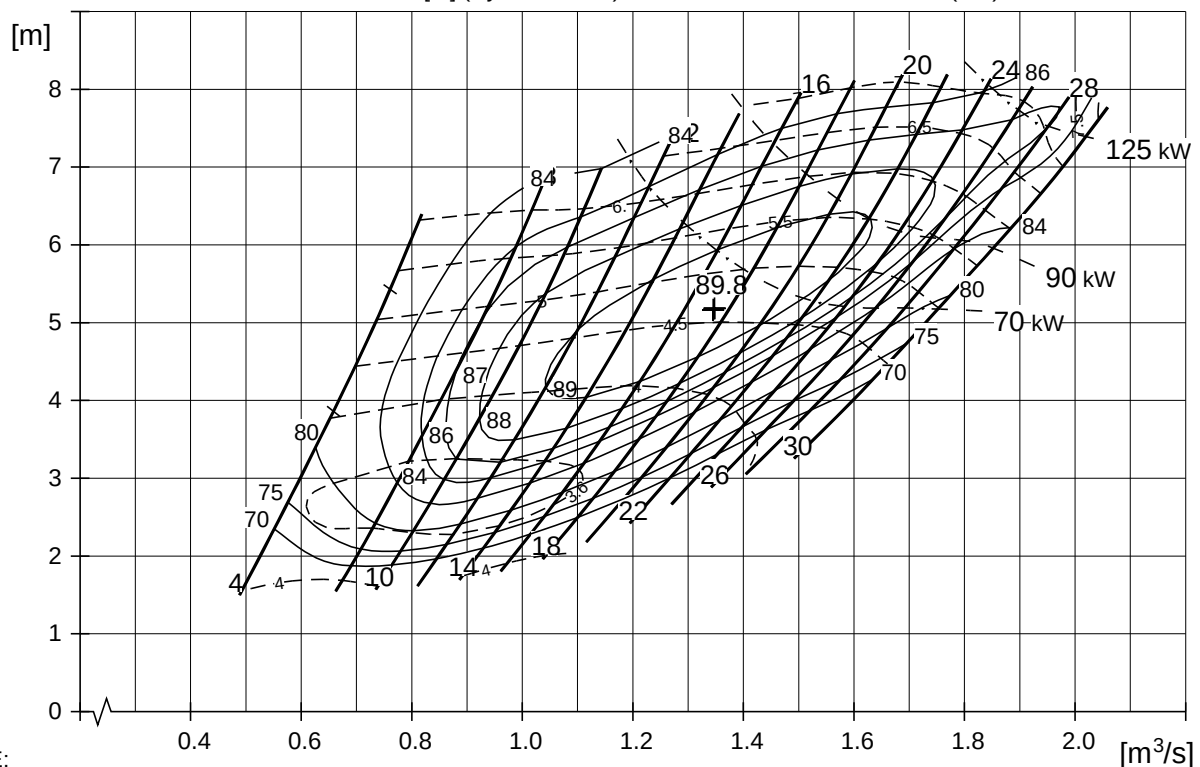
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE**FLOW**



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7570

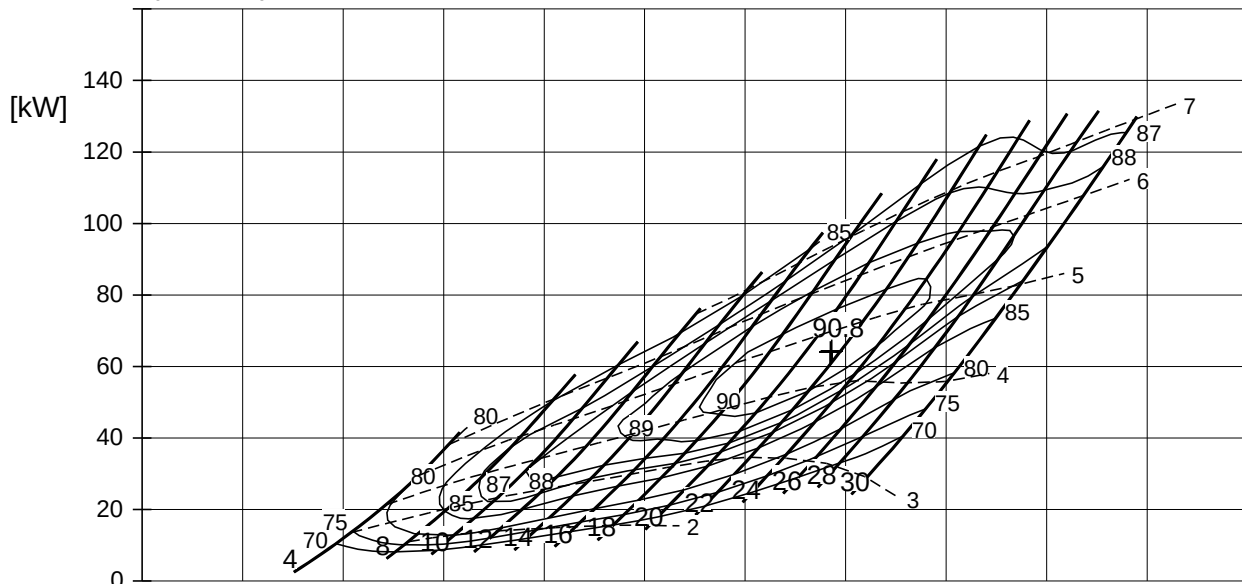
CURVE NO

53- 440C4EDATE
2016-01-25ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
440 RPMIMPELLER/HUB DIAMETER
700 / 320 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
765	43-56-14AA	14	70 kW
805	54-38-14AA	14	90
835	54-52-14AA	14	125
865	54-66-14AA	14	155

POWER (SHAFT)

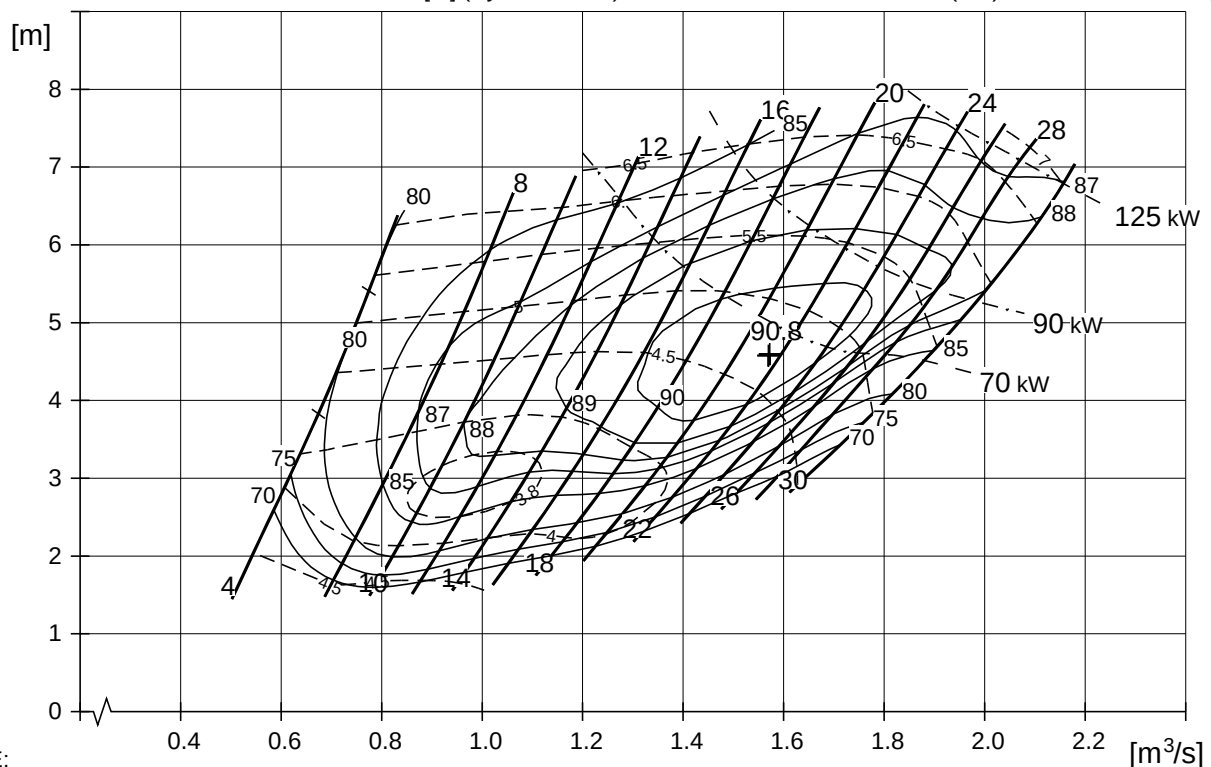
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7570

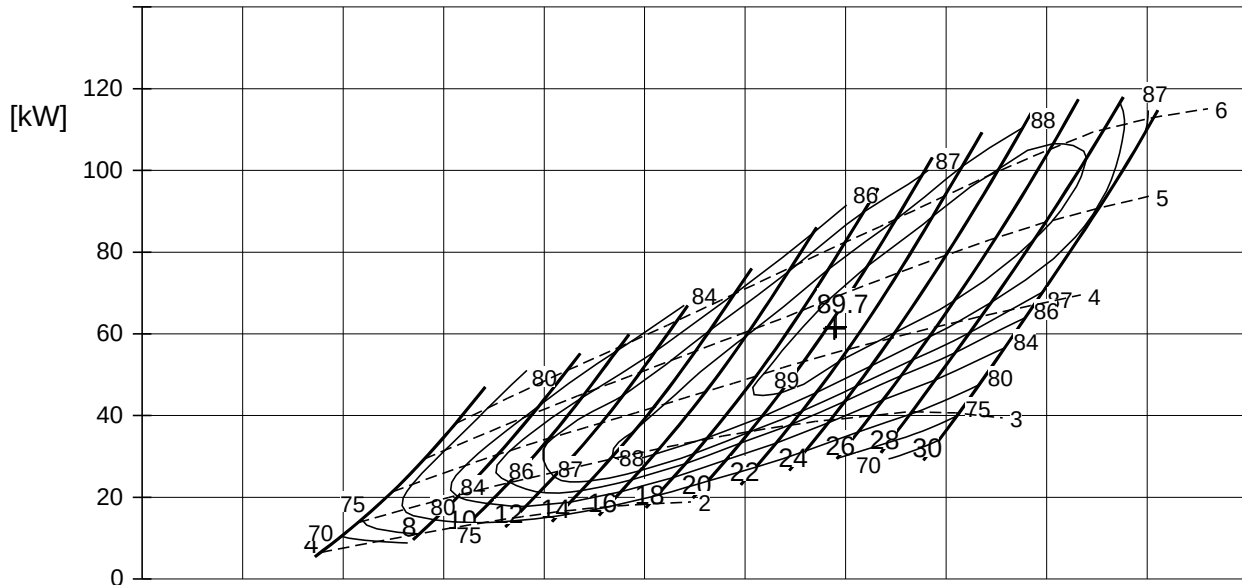
CURVE NO

53- 440C4EDATE
2016-01-25ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
440 RPMIMPELLER/HUB DIAMETER
700 / 320 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
765	43-56-14AA	14	70 kW
805	54-38-14AA	14	90
835	54-52-14AA	14	125
865	54-66-14AA	14	155

POWER (SHAFT)

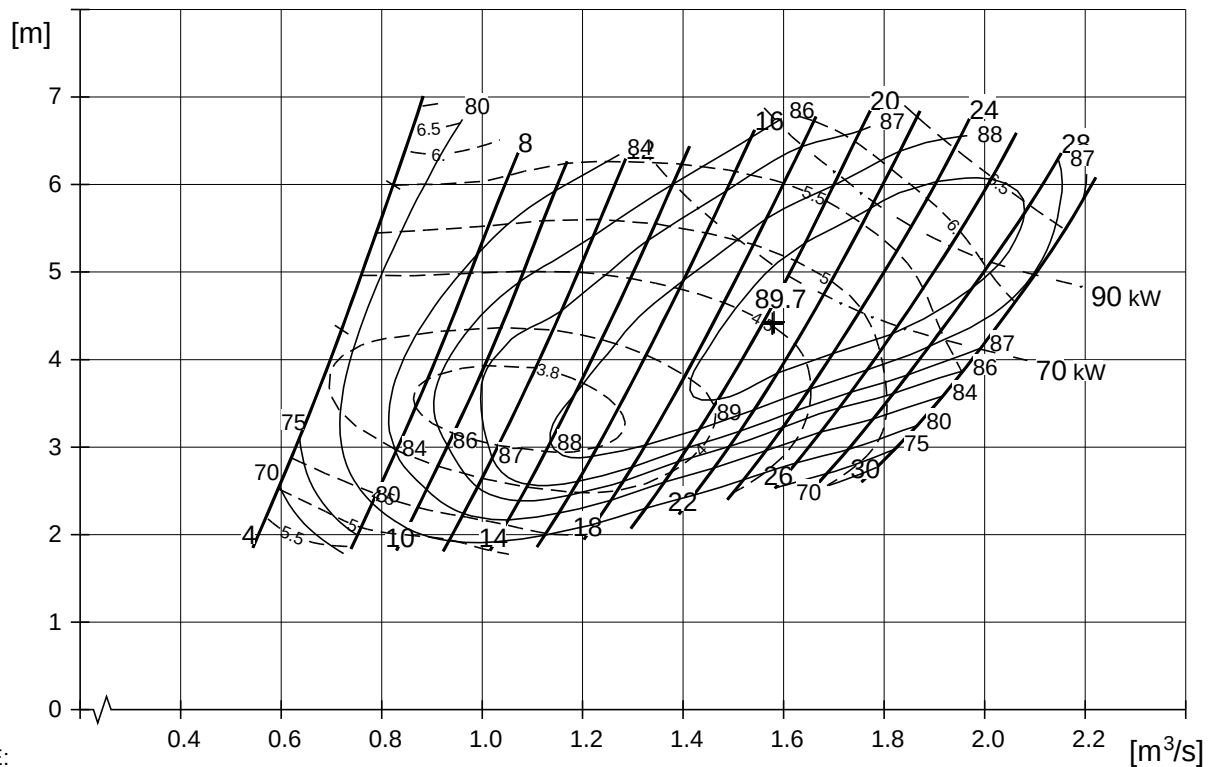
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7570

CURVE NO

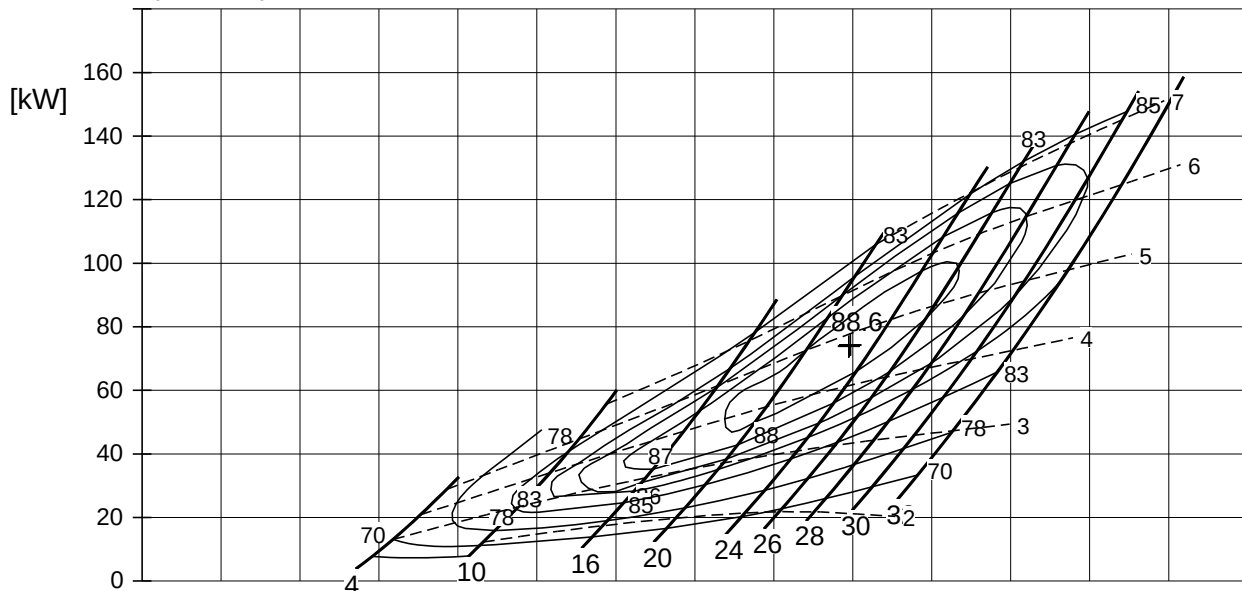
53- 440C4E

DATE
2016-01-25ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
440 RPMIMPELLER/HUB DIAMETER
700 / 320 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
765	43-56-14AA	14	70 kW
805	54-38-14AA	14	90
835	54-52-14AA	14	125
865	54-66-14AA	14	155

POWER (SHAFT)

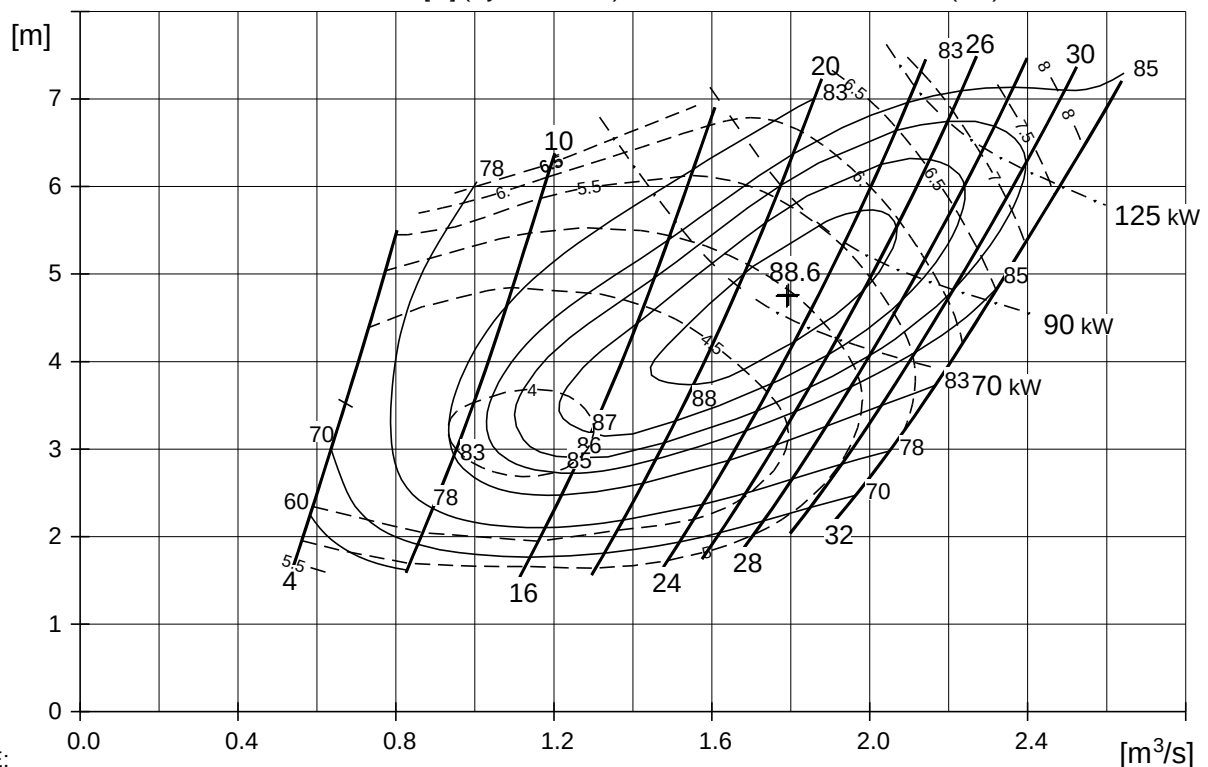
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7570

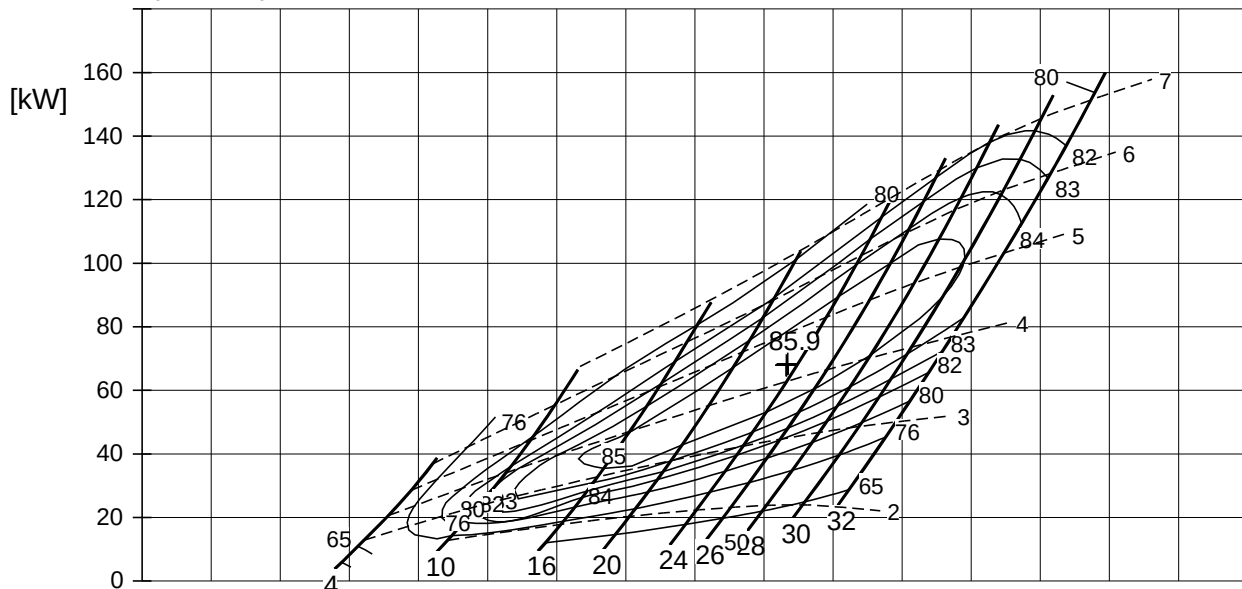
CURVE NO

53- 440C4EDATE
2016-01-25ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
440 RPMIMPELLER/HUB DIAMETER
700 / 320 mmGUIDE VANE(S)
77 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **32** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
765	43-56-14AA	14	70 kW
805	54-38-14AA	14	90
835	54-52-14AA	14	125
865	54-66-14AA	14	155

POWER (SHAFT)

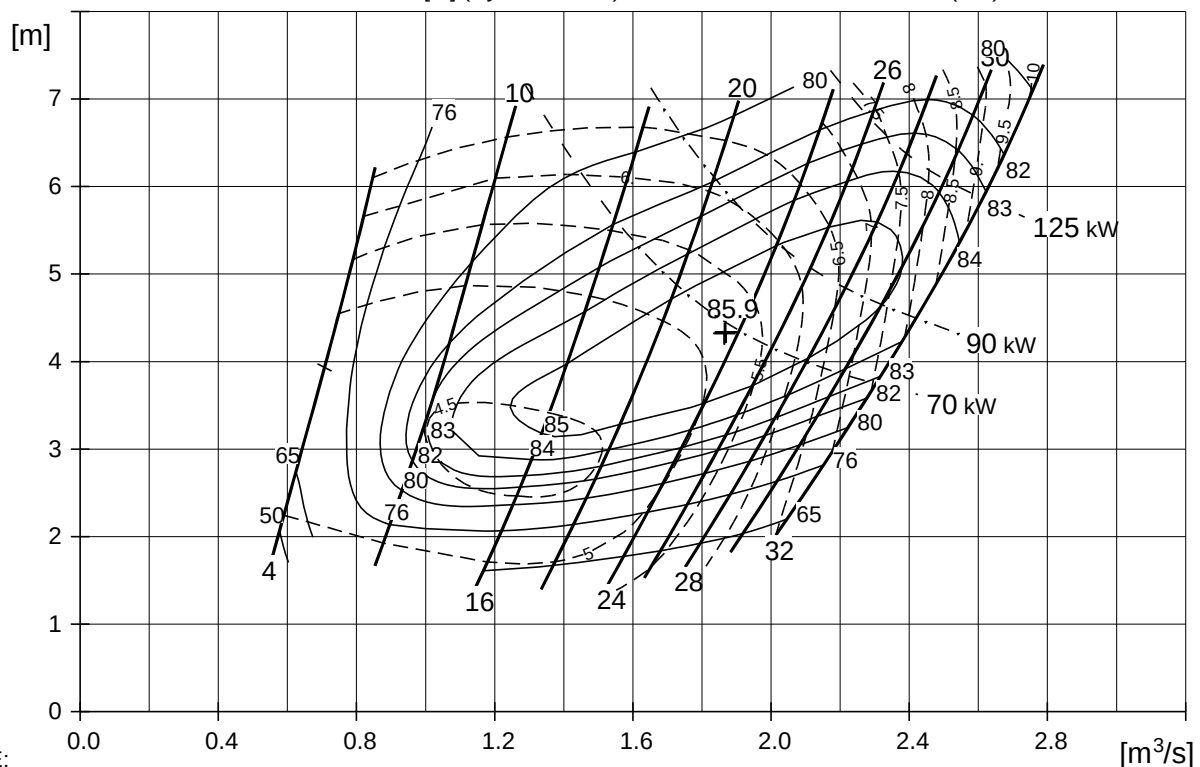
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE**FLOW**



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7570

CURVE NO

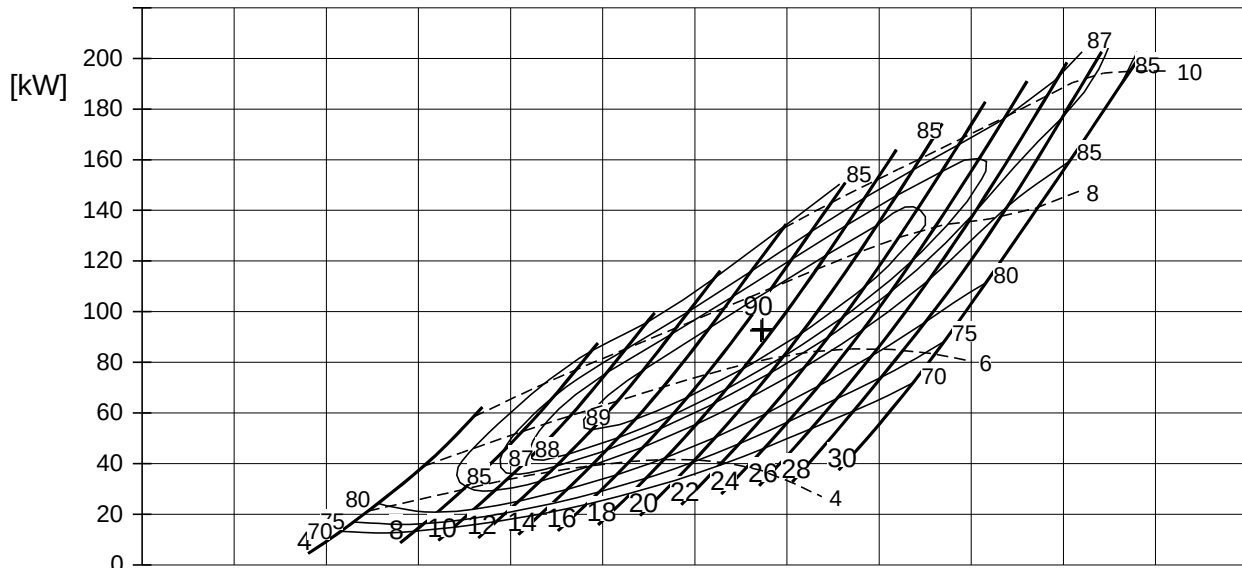
53- 505 C4E

DATE
2016-01-25ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
505 RPMIMPELLER/HUB DIAMETER
700 / 320 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
765	43-56-12GA	12	90 kW
805	54-38-12AA	12	110
835	54-52-12AA	12	160
865	54-66-12AA	12	200
905	66-56-12AA	12	290

POWER (SHAFT)

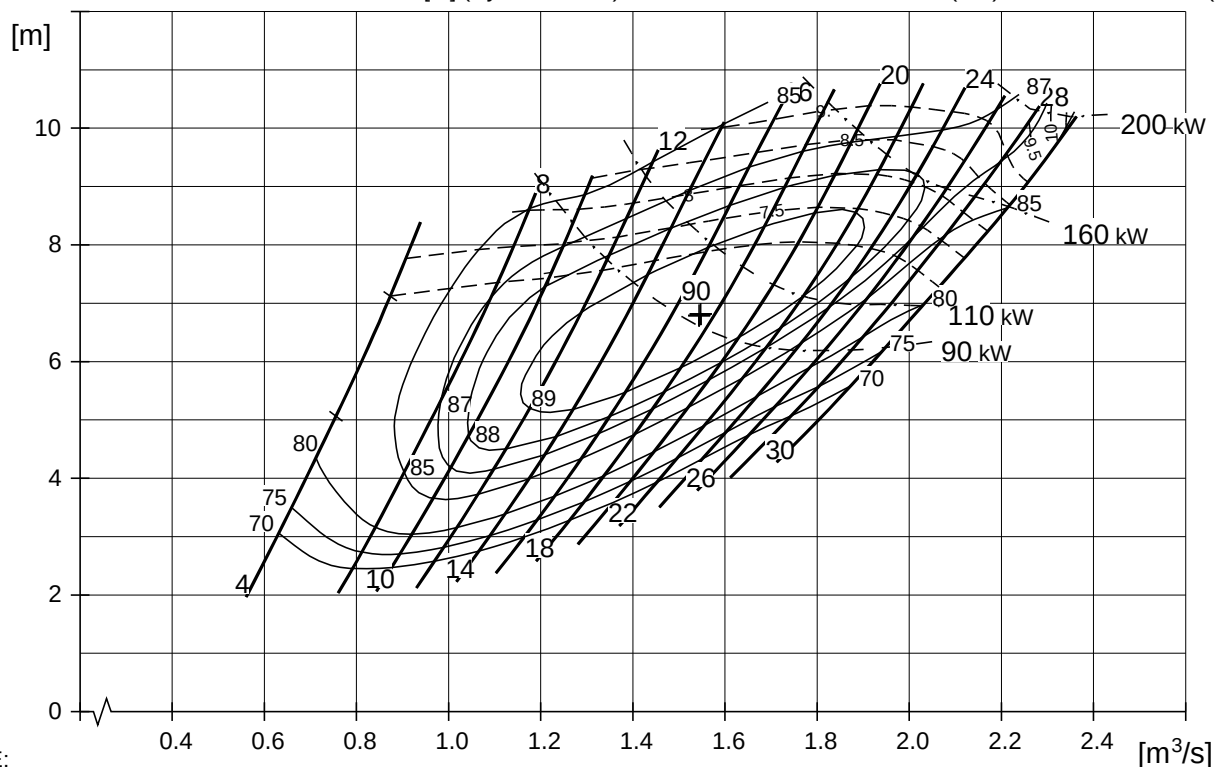
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7570

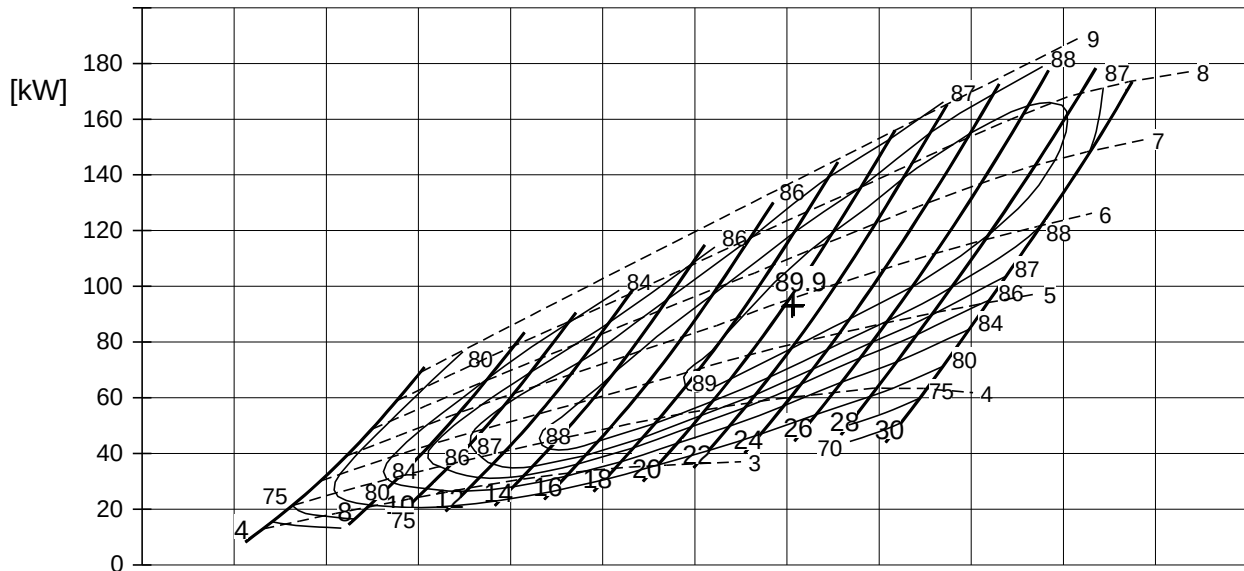
CURVE NO

53- 505 C4EDATE
2016-01-25ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
505 RPMIMPELLER/HUB DIAMETER
700 / 320 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
765	43-56-12GA	12	90 kW
805	54-38-12AA	12	110
835	54-52-12AA	12	160
865	54-66-12AA	12	200
905	66-56-12AA	12	290

POWER (SHAFT)

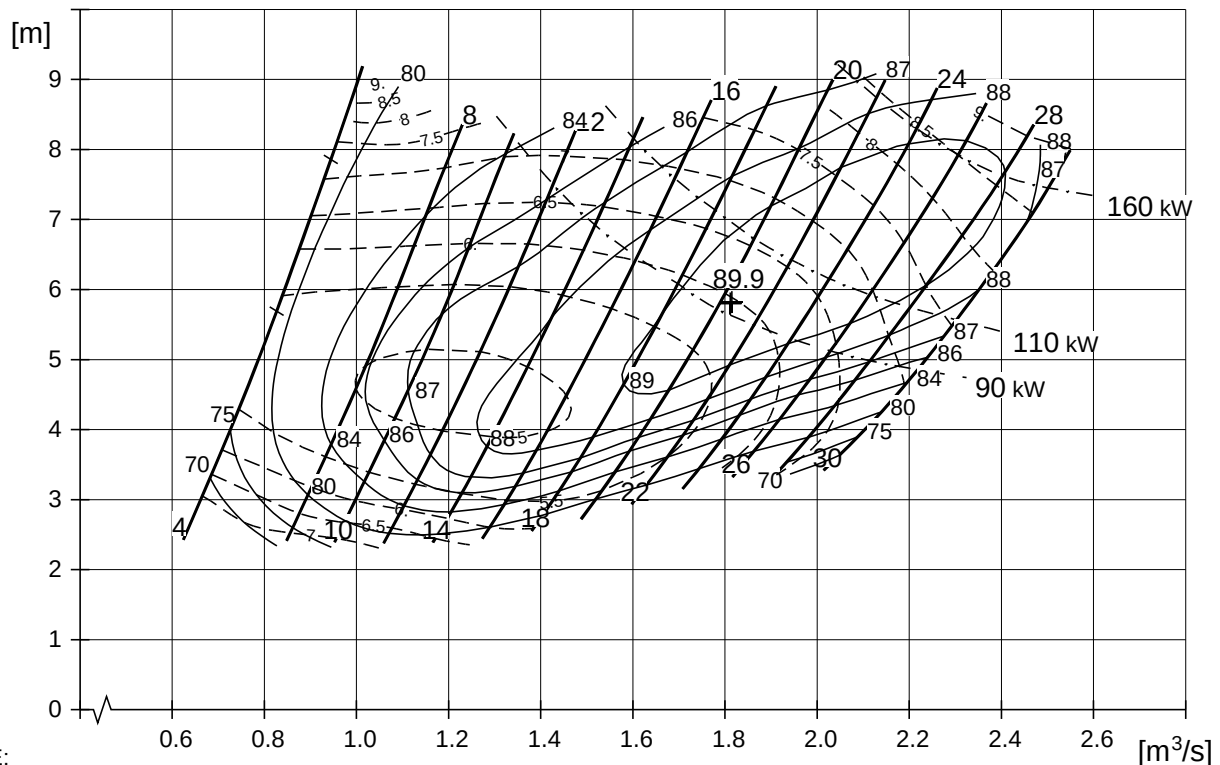
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7570

CURVE NO

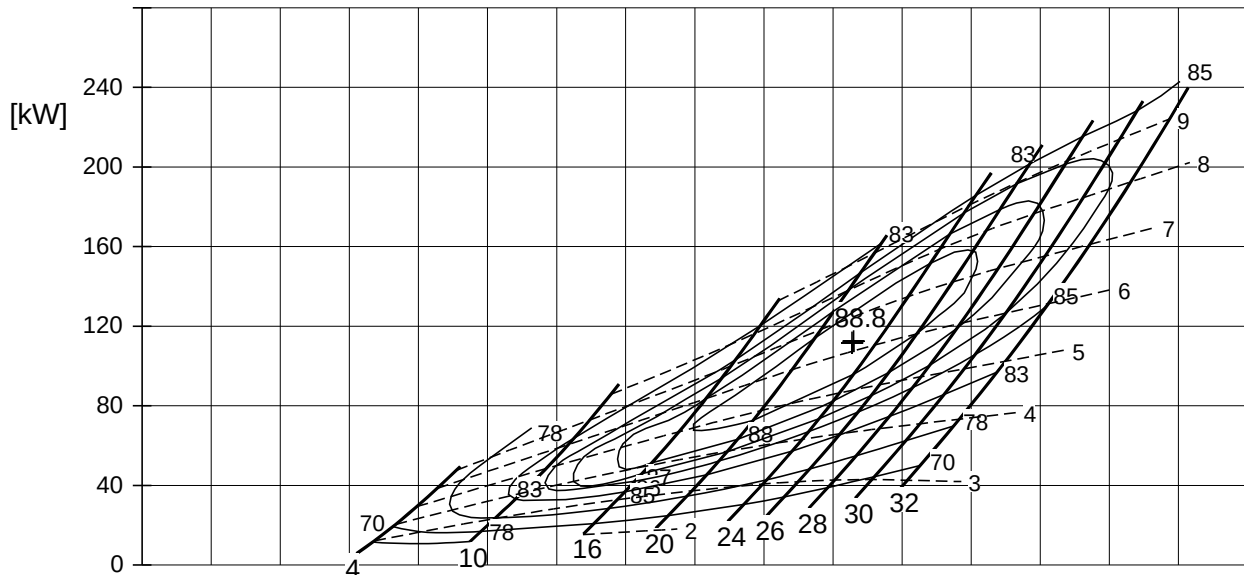
53- 505 C4E

DATE
2016-01-25ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
505 RPMIMPELLER/HUB DIAMETER
700 / 320 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
765	43-56-12GA	12	90 kW
805	54-38-12AA	12	110
835	54-52-12AA	12	160
865	54-66-12AA	12	200
905	66-56-12AA	12	290

POWER (SHAFT)

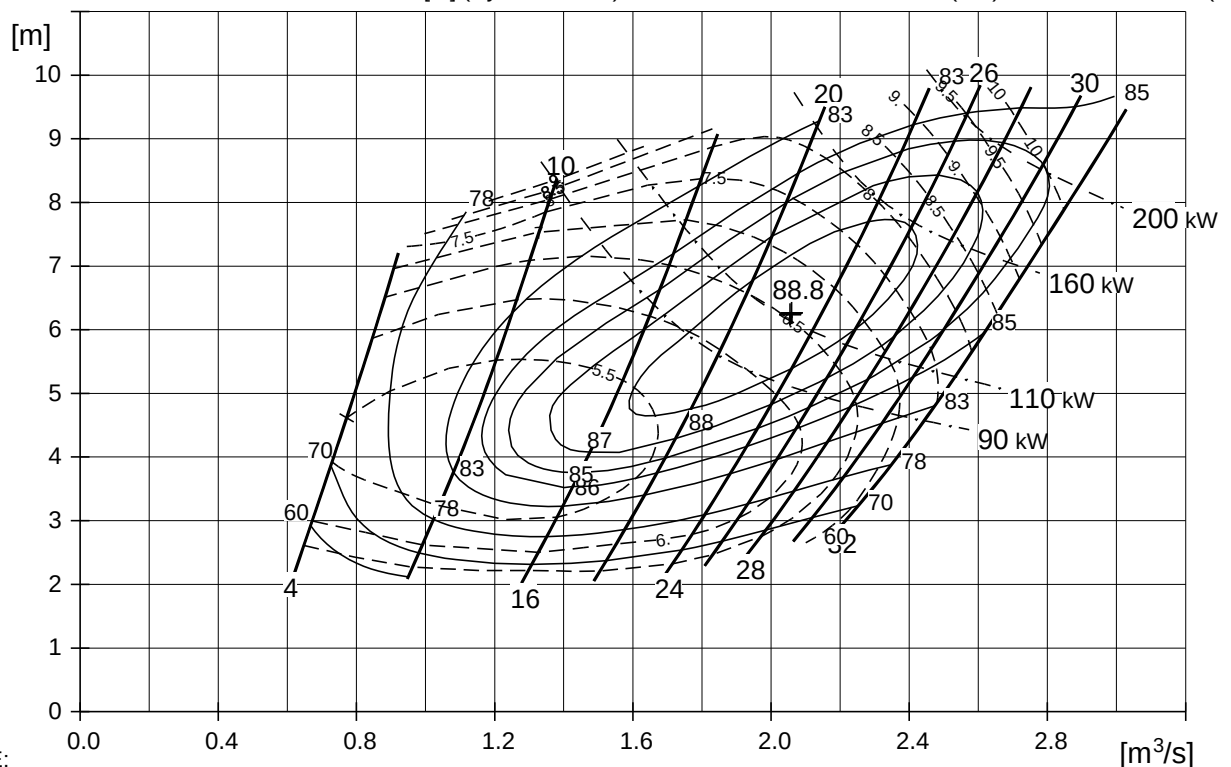
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7570

CURVE NO

53- 505 C4E

DATE
2016-01-25

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
505 RPM

IMPELLER/HUB DIAMETER
700 / 320 mm

GUIDE VANE(S)
77 deg

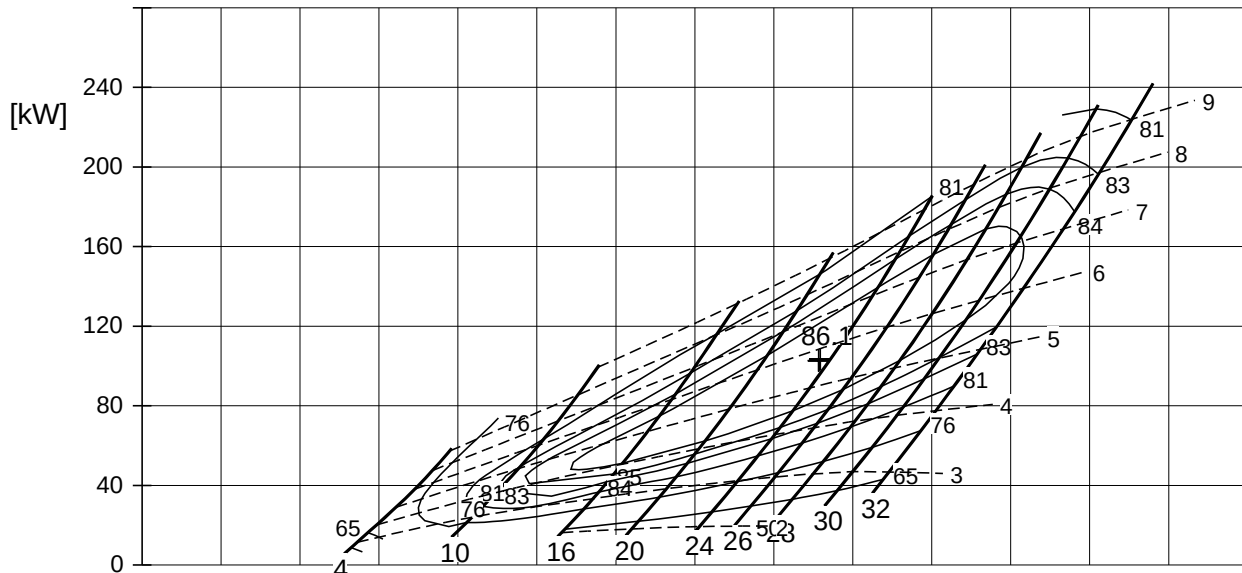
NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
765	43-56-12GA	12	90 kW
805	54-38-12AA	12	110
835	54-52-12AA	12	160
865	54-66-12AA	12	200
905	66-56-12AA	12	290

POWER (SHAFT)

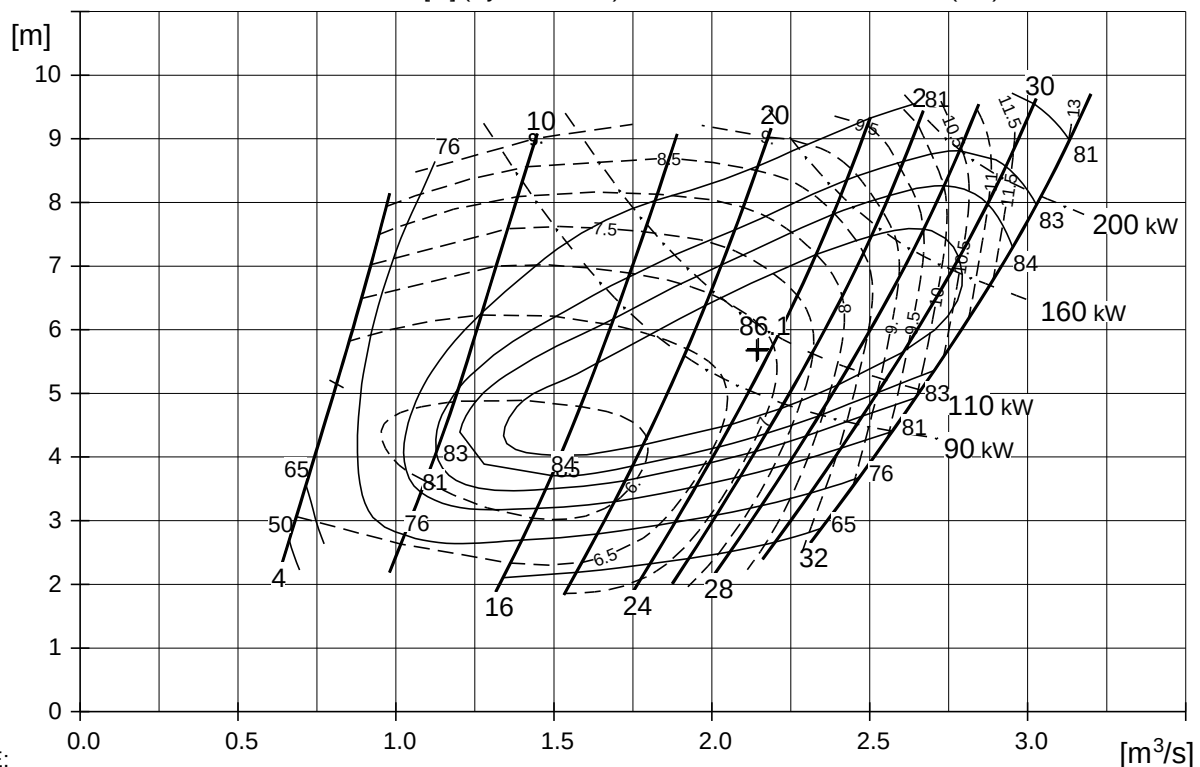
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7570

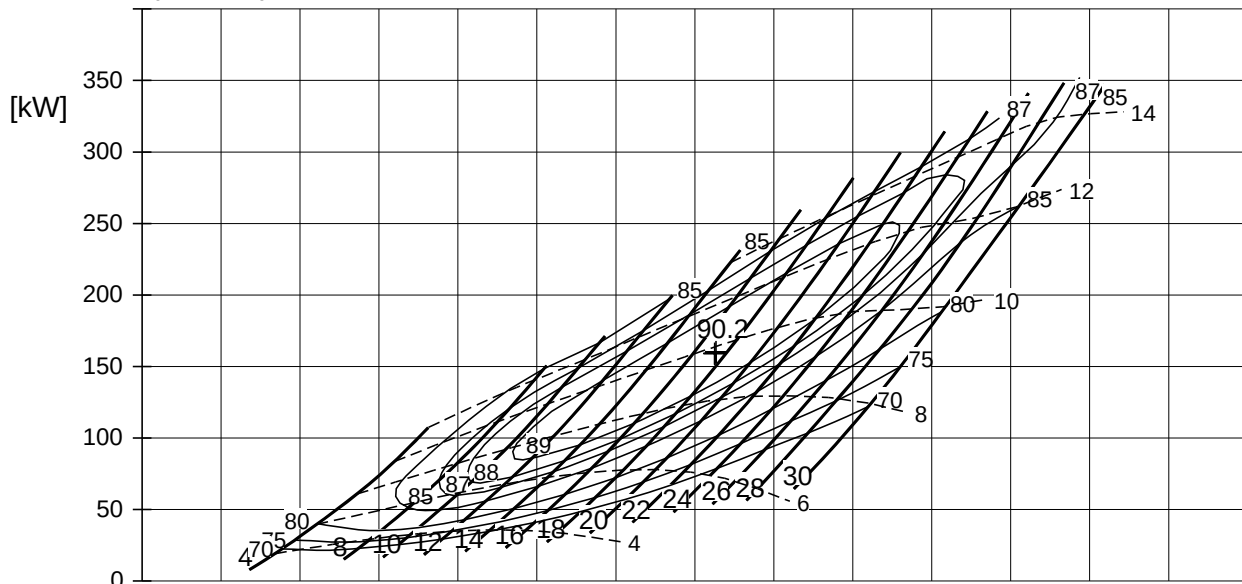
CURVE NO

53- 605 C4EDATE
2016-01-25ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
605 RPMIMPELLER/HUB DIAMETER
700 / 320 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
805	54-38-10AA	10	140 kW
835	54-52-10AA	10	190
865	54-66-10AA	10	230
905	66-56-10AA	10	365

POWER (SHAFT)

ISO-CURVES : (- - -) HEAD(m)



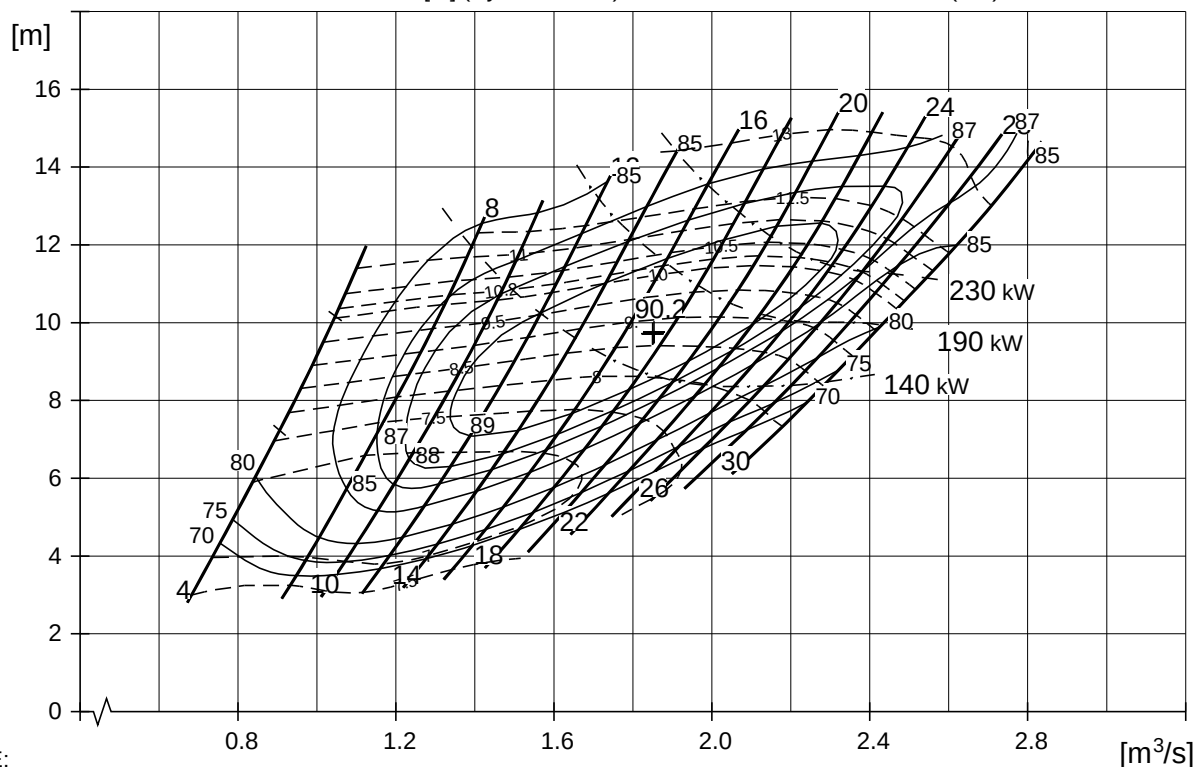
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7570

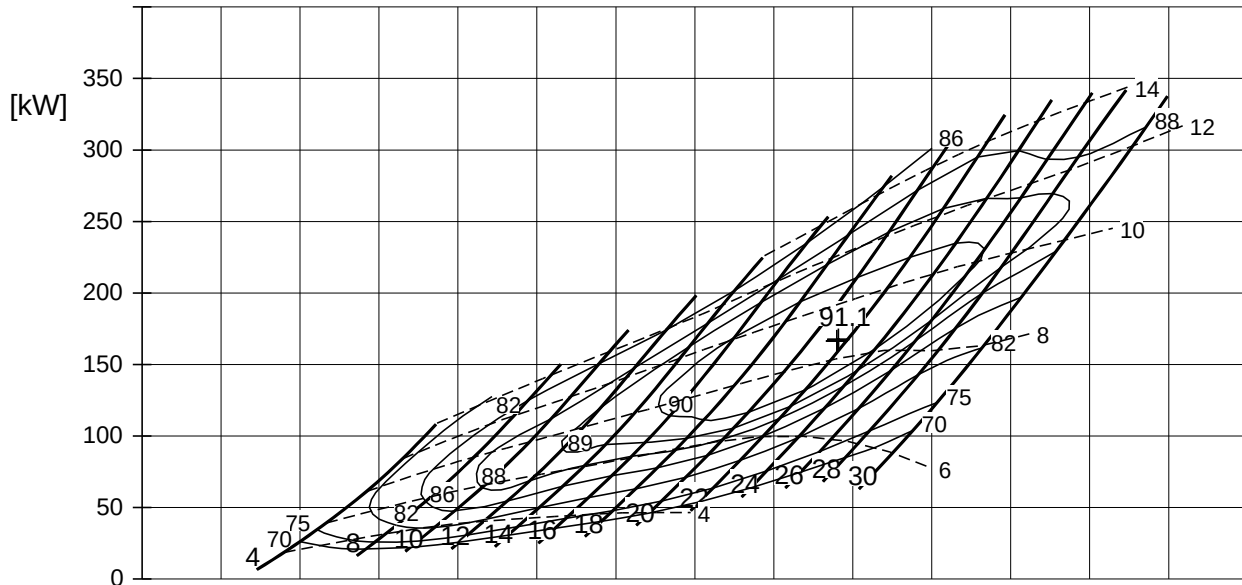
CURVE NO

53- 605 C4EDATE
2016-01-25ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
605 RPMIMPELLER/HUB DIAMETER
700 / 320 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
805	54-38-10AA	10	140 kW
835	54-52-10AA	10	190
865	54-66-10AA	10	230
905	66-56-10AA	10	365

POWER (SHAFT)

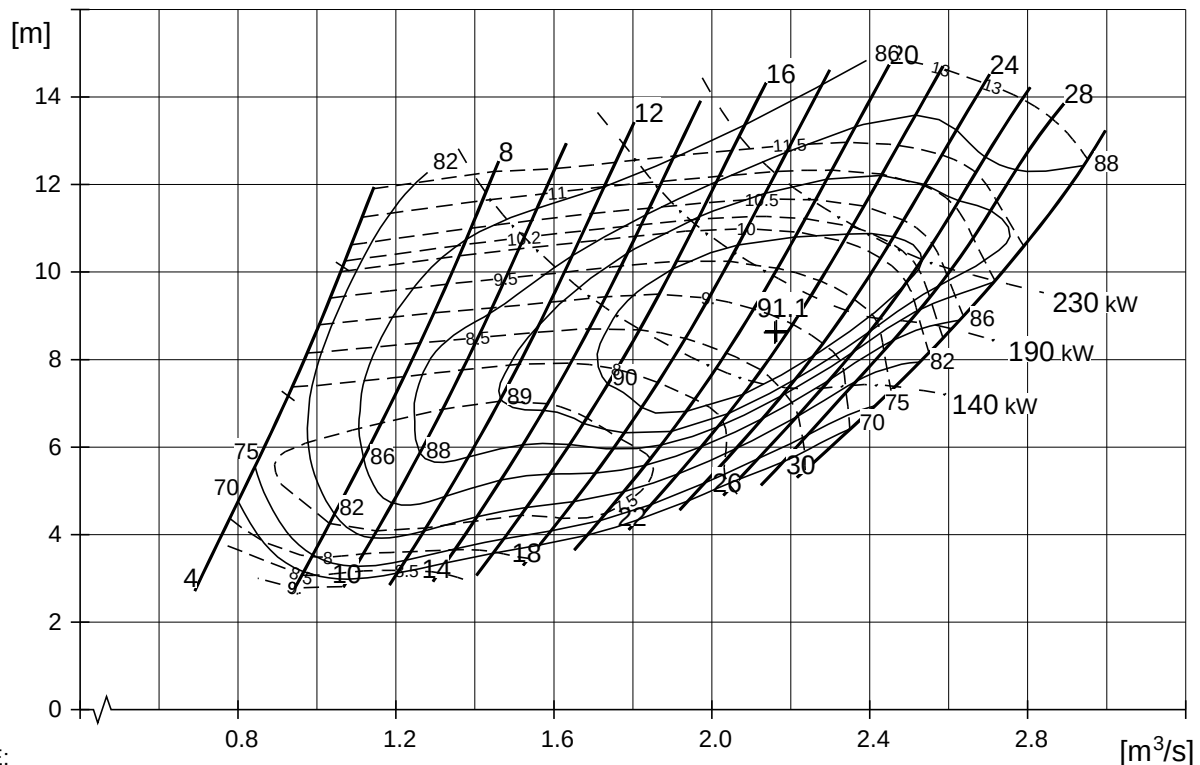
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7570

CURVE NO

53- 605 C4E

DATE
2016-01-25

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
605 RPM

IMPELLER/HUB DIAMETER
700 / 320 mm

GUIDE VANE(S)
63 deg

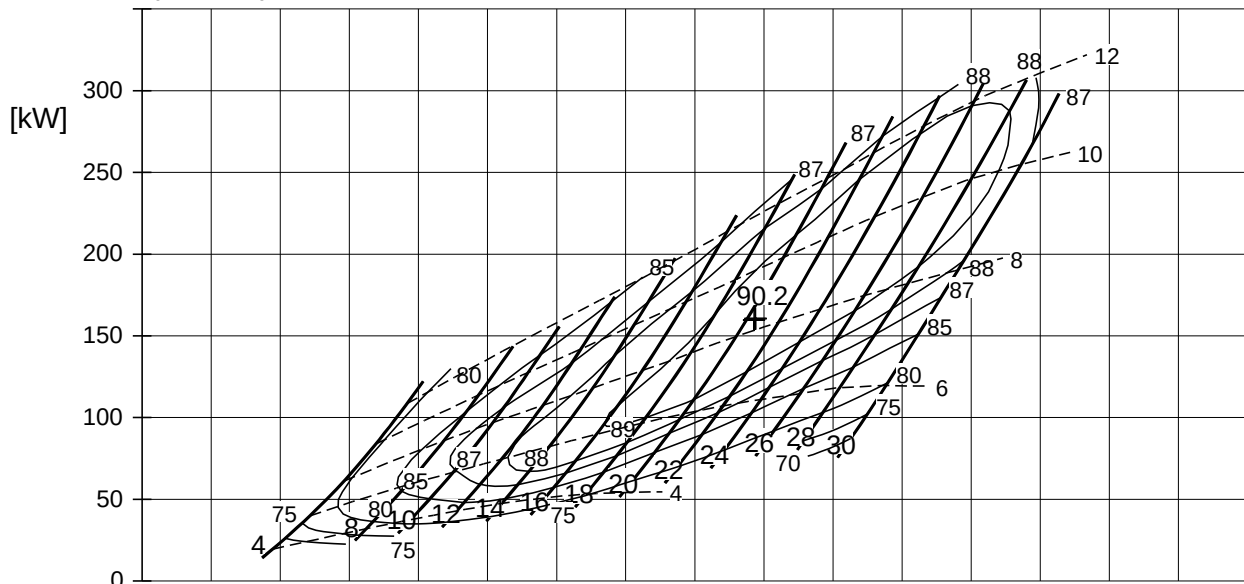
NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
805	54-38-10AA	10	140 kW
835	54-52-10AA	10	190
865	54-66-10AA	10	230
905	66-56-10AA	10	365

POWER (SHAFT)

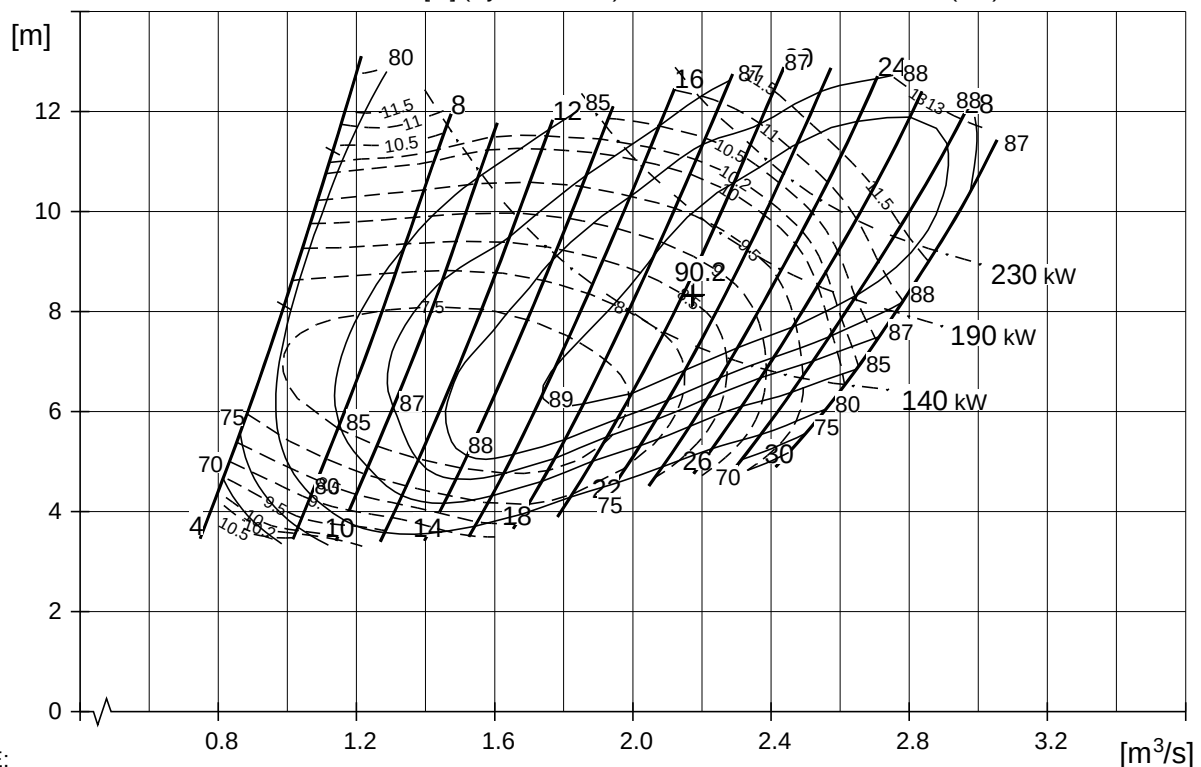
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7570

CURVE NO

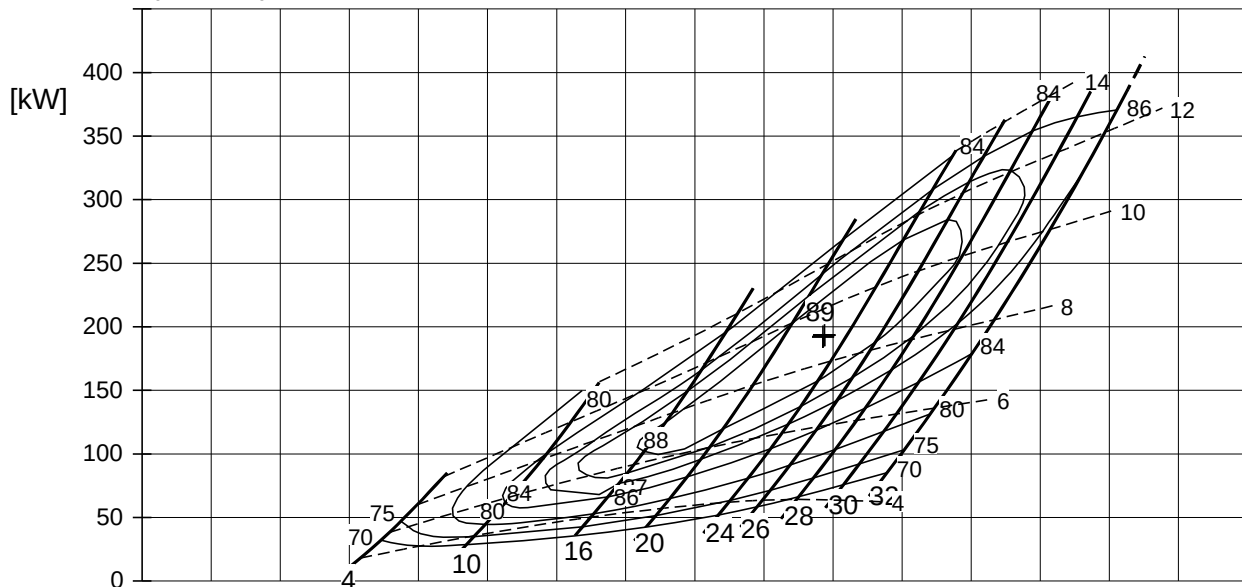
53- 605 C4E

DATE
2016-01-25ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
605 RPMIMPELLER/HUB DIAMETER
700 / 320 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
805	54-38-10AA	10	140 kW
835	54-52-10AA	10	190
865	54-66-10AA	10	230
905	66-56-10AA	10	365

POWER (SHAFT)

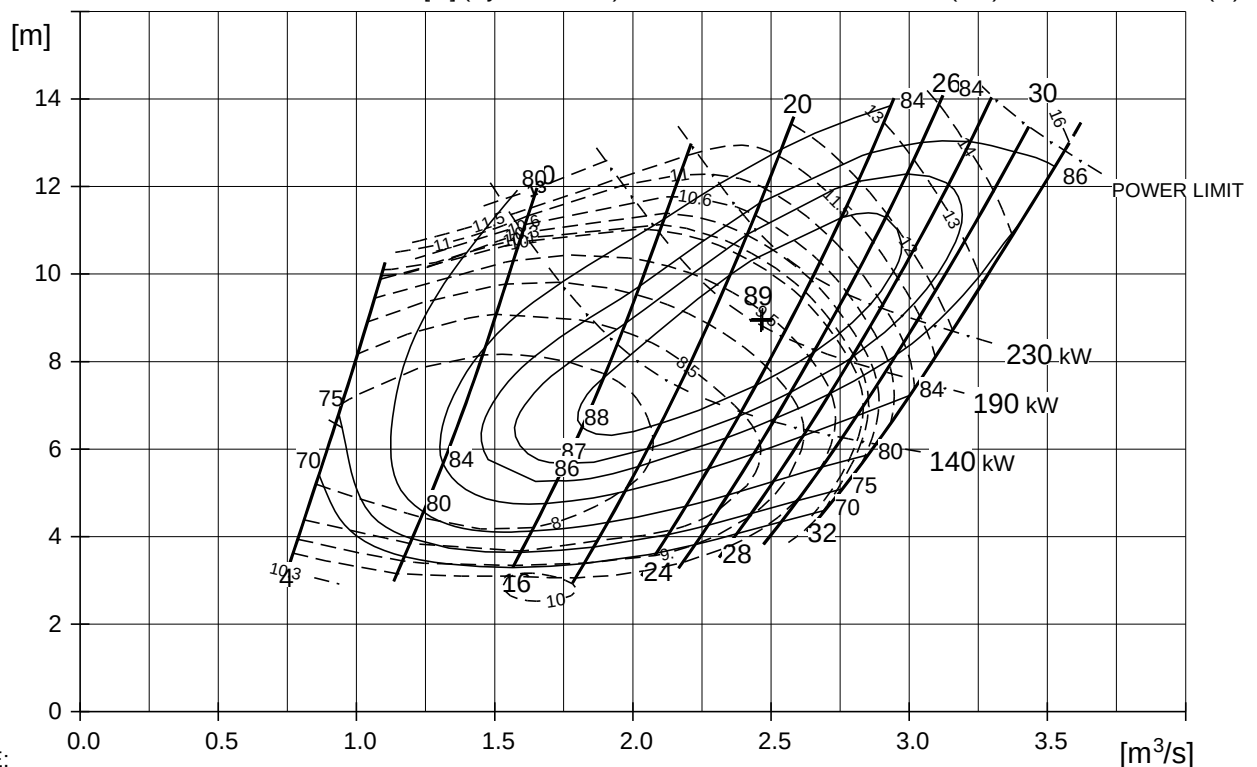
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7570

CURVE NO

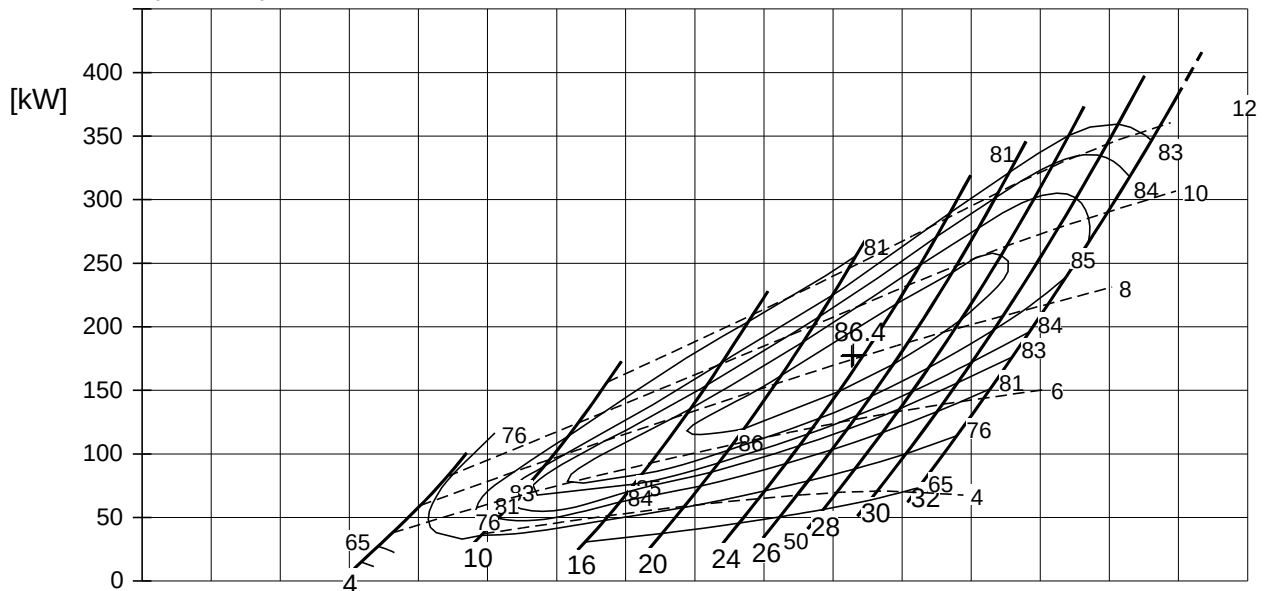
53- 605 C4E

DATE
2016-01-25ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
605 RPMIMPELLER/HUB DIAMETER
700 / 320 mmGUIDE VANE(S)
77 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
805	54-38-10AA	10	140 kW
835	54-52-10AA	10	190
865	54-66-10AA	10	230
905	66-56-10AA	10	365

POWER (SHAFT)

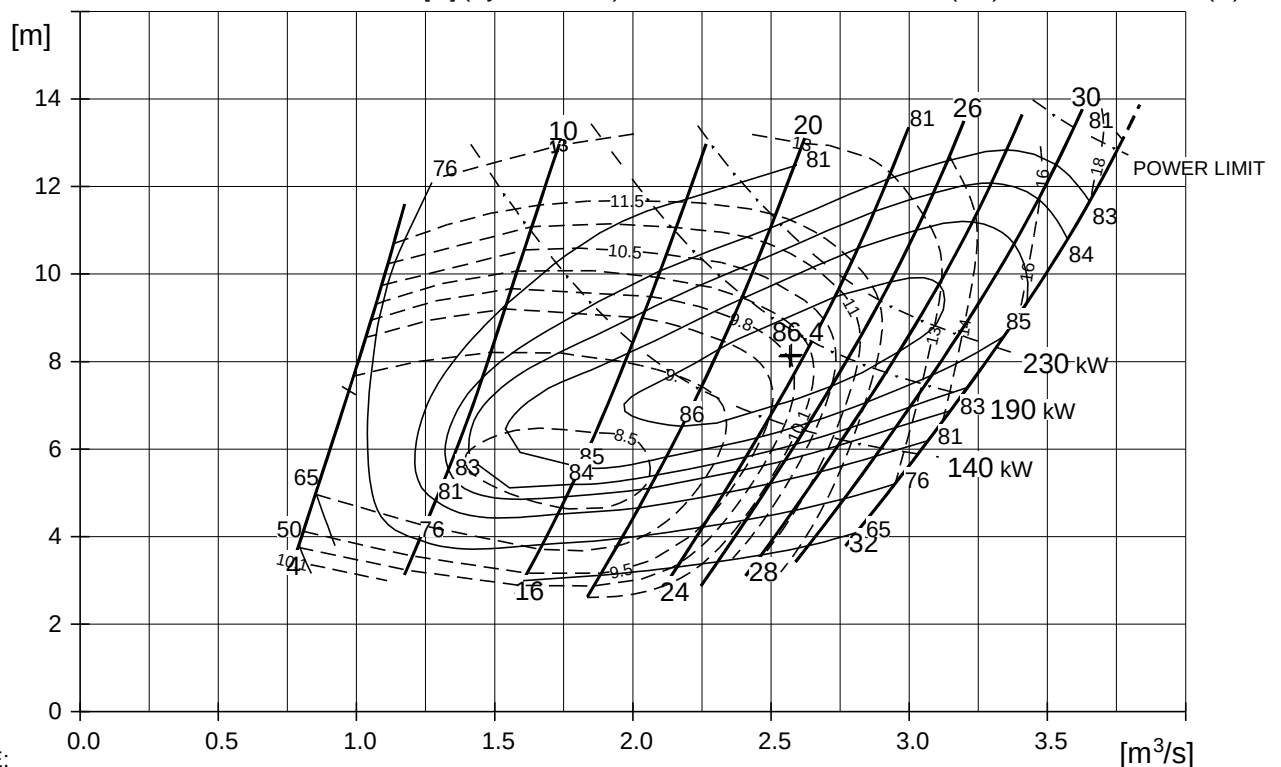
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7570

CURVE NO

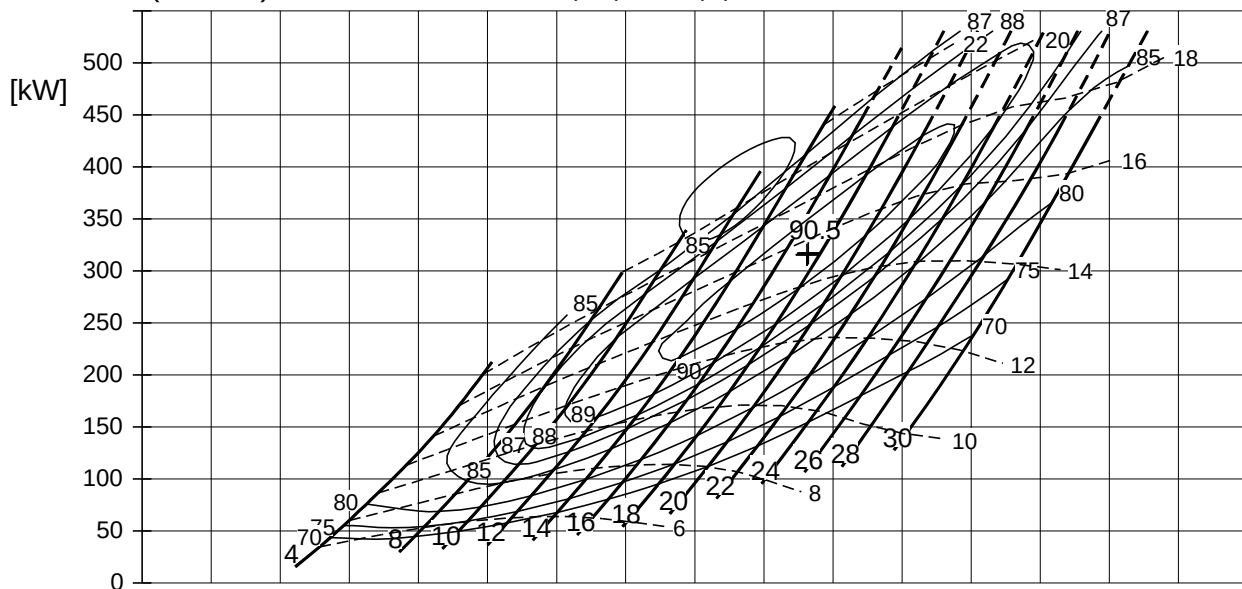
53- 760C4E

DATE
2016-01-25ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
760 RPMIMPELLER/HUB DIAMETER
700 / 320 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
835	54-52-8AA	8	230 kW
865	54-66-8AA	8	300
905	66-56-8AA	8	390
935	66-66-8AA	8	430

POWER (SHAFT)

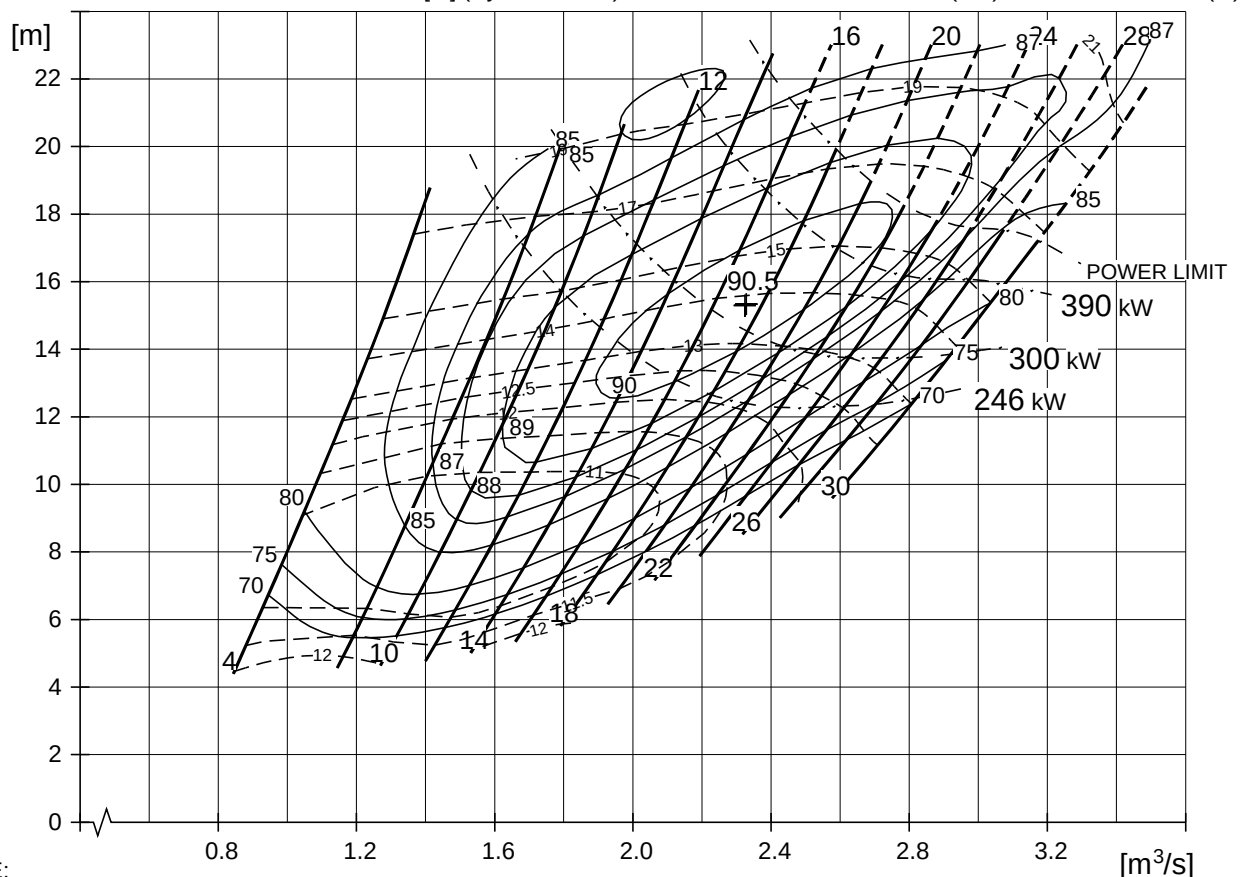
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7570

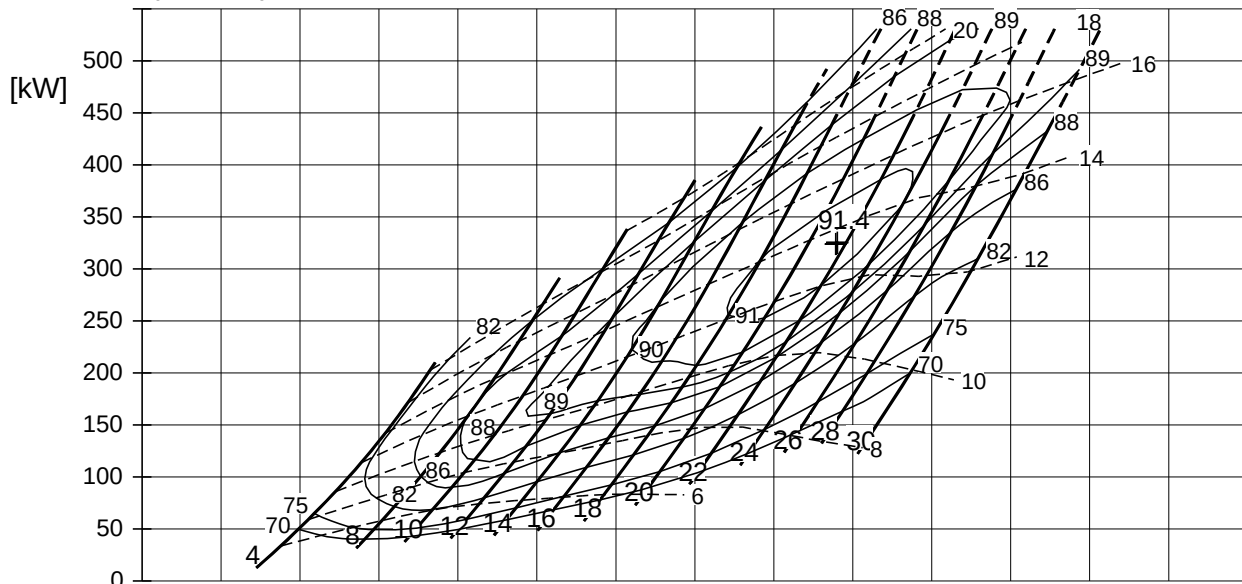
CURVE NO

53- 755 C4EDATE
2016-01-25ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
755 RPMIMPELLER/HUB DIAMETER
700 / 320 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
835	54-52-8AA	8	230 kW
865	54-66-8AA	8	300
905	66-56-8AA	8	390
935	66-66-8AA	8	430

POWER (SHAFT)

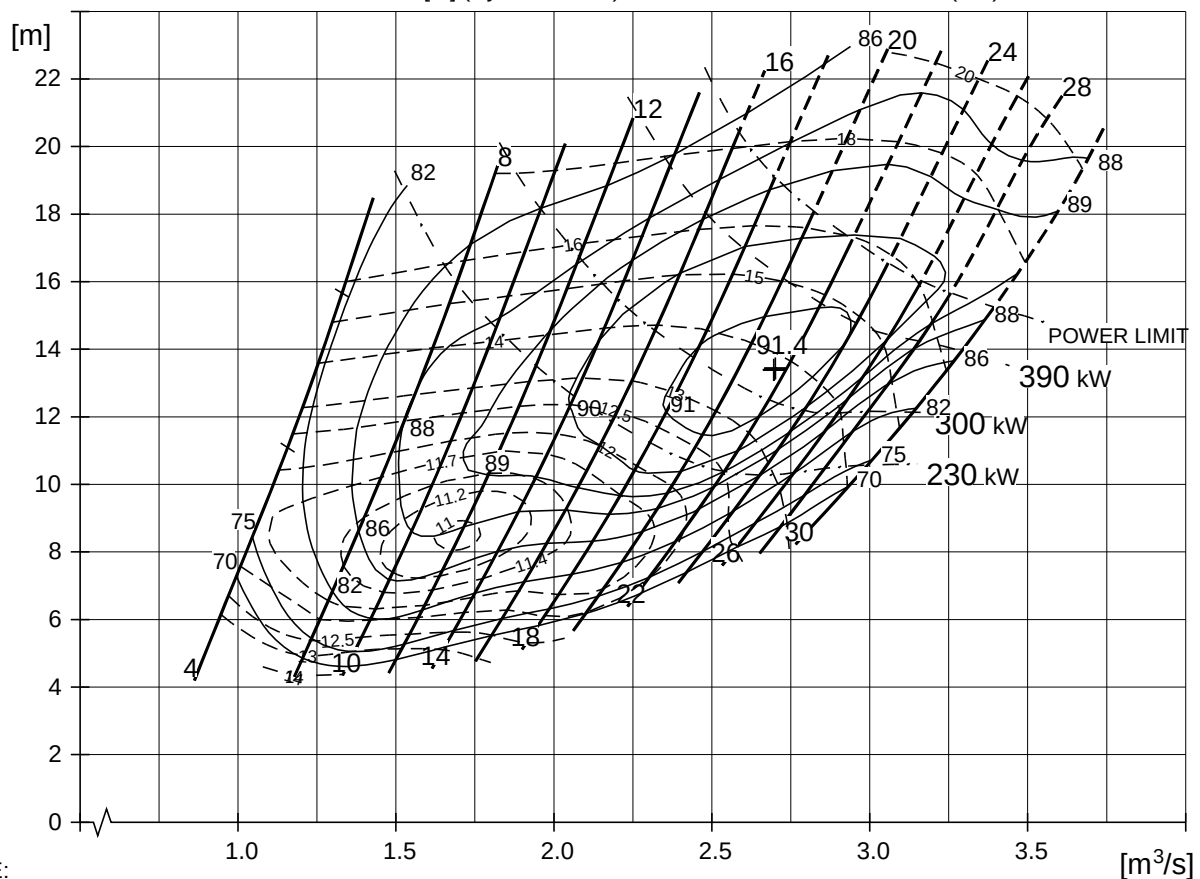
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7570

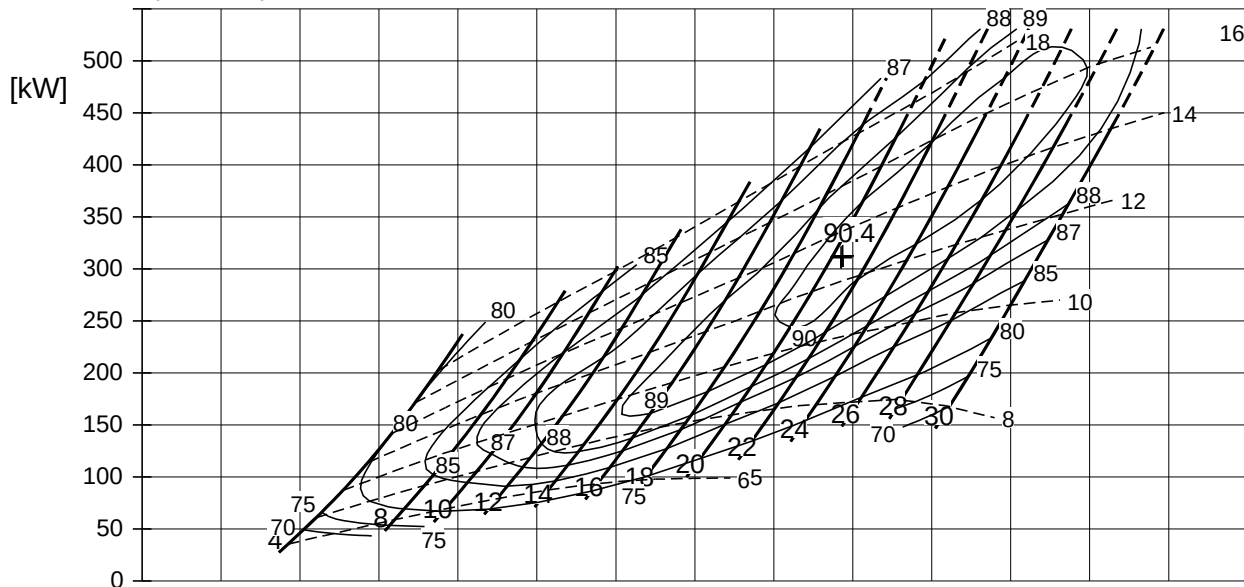
CURVE NO

53- 755 C4EDATE
2016-01-25ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
755 RPMIMPELLER/HUB DIAMETER
700 / 320 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
835	54-52-8AA	8	230 kW
865	54-66-8AA	8	300
905	66-56-8AA	8	390
935	66-66-8AA	8	430

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)



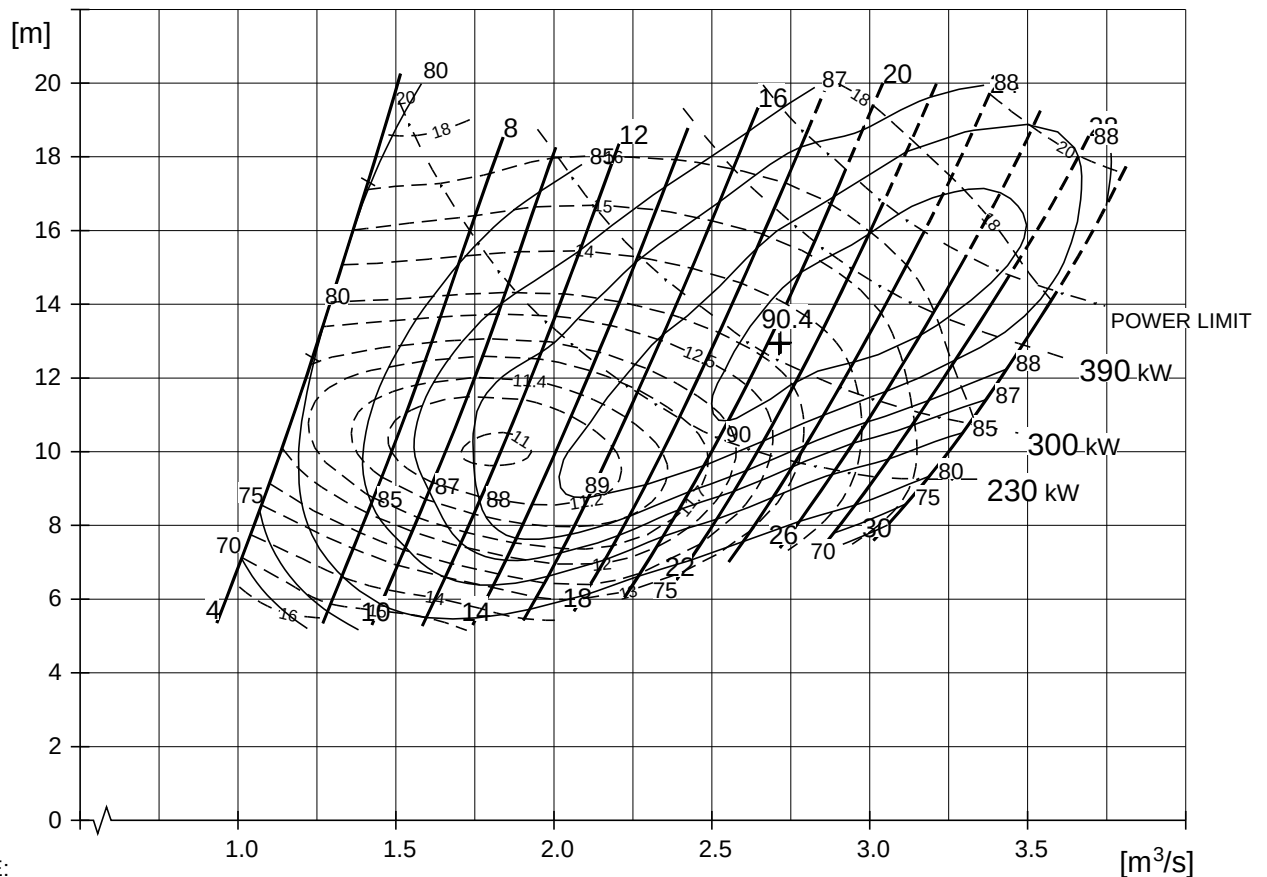
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7570

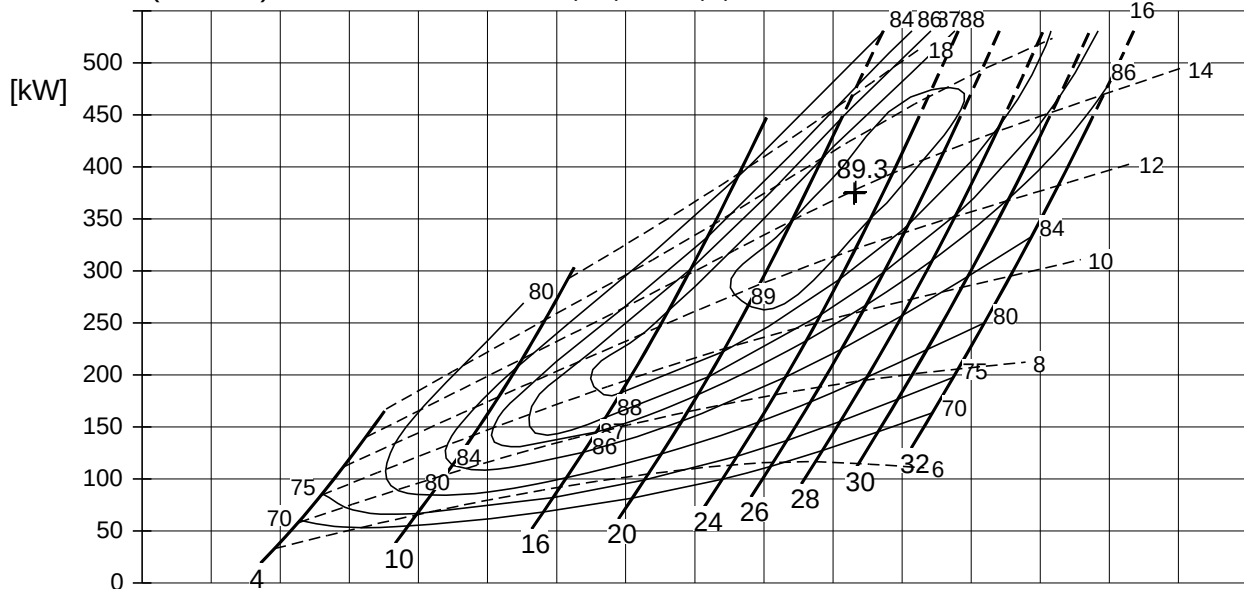
CURVE NO

53- 755C4EDATE
2016-01-25ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
755 RPMIMPELLER/HUB DIAMETER
700 / 320 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **32** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
835	54-52-8AA	8	230 kW
865	54-66-8AA	8	300
905	66-56-8AA	8	390
935	66-66-8AA	8	430

POWER (SHAFT)

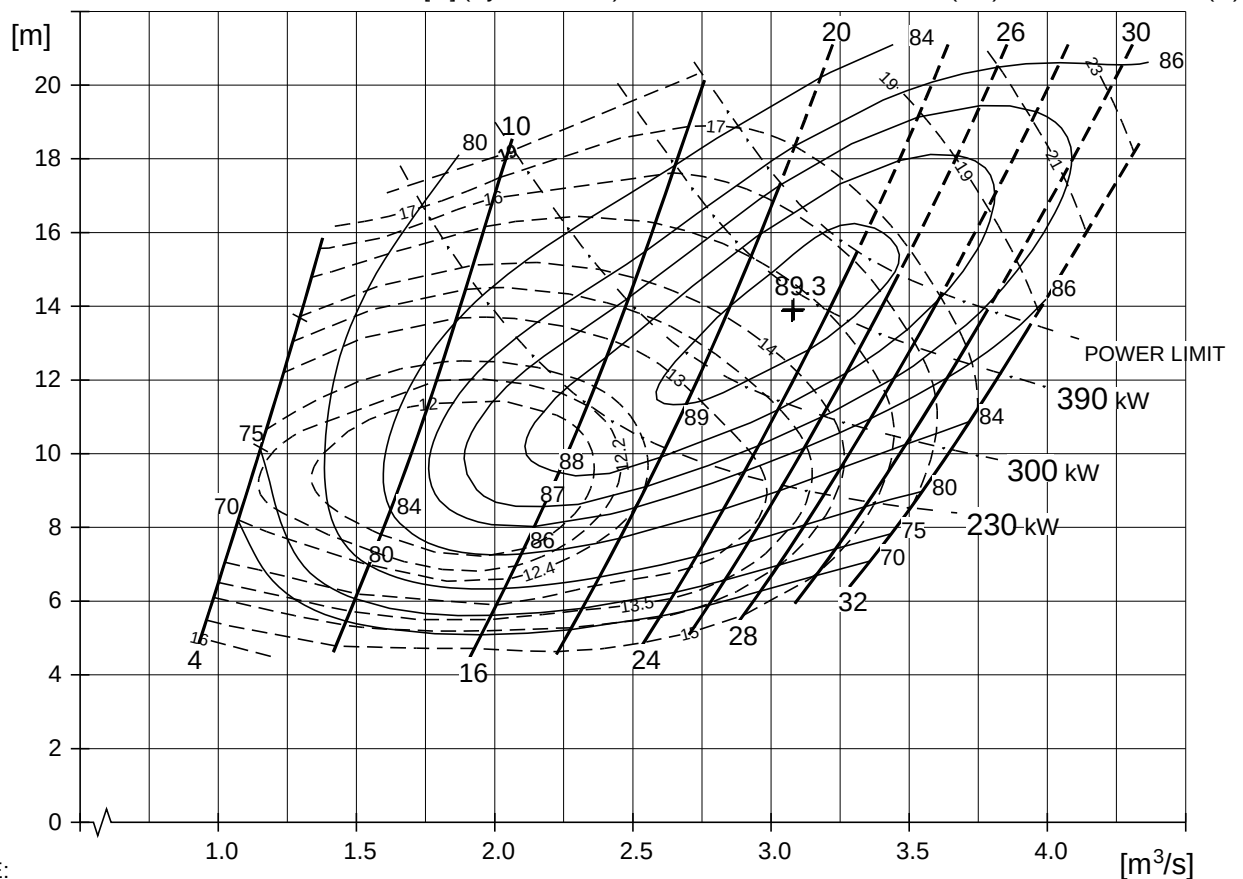
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7570

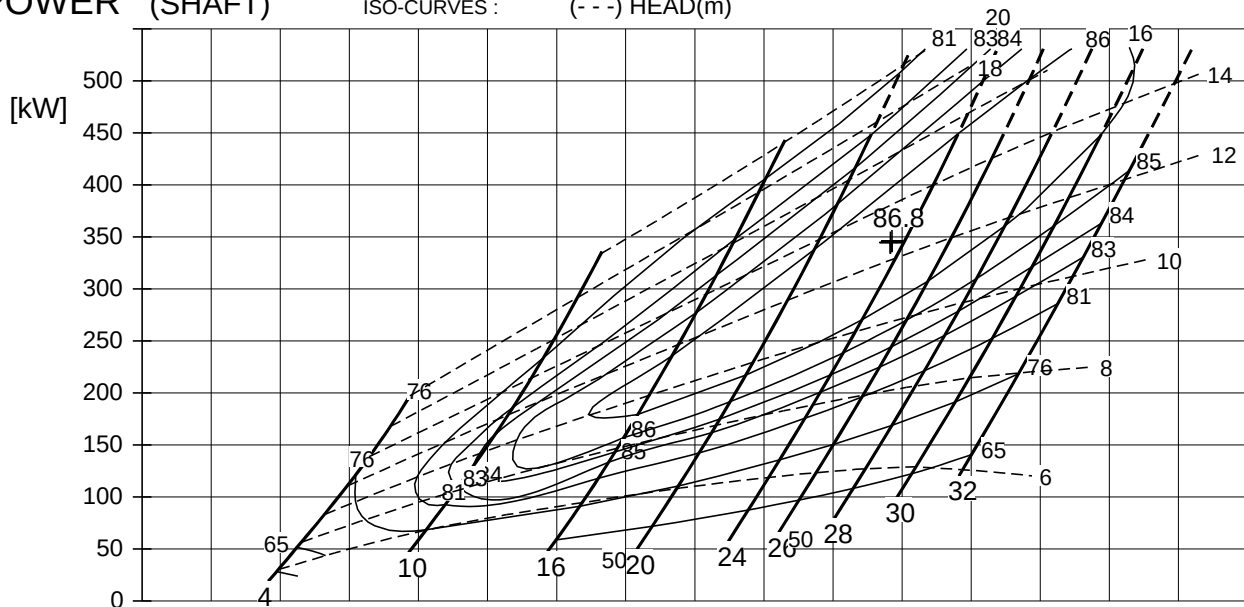
CURVE NO

53- 755C4EDATE
2016-01-25ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
755 RPMIMPELLER/HUB DIAMETER
700 / 320 mmGUIDE VANE(S)
77 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **32** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
835	54-52-8AA	8	230 kW
865	54-66-8AA	8	300
905	66-56-8AA	8	390
935	66-66-8AA	8	430

POWER (SHAFT)

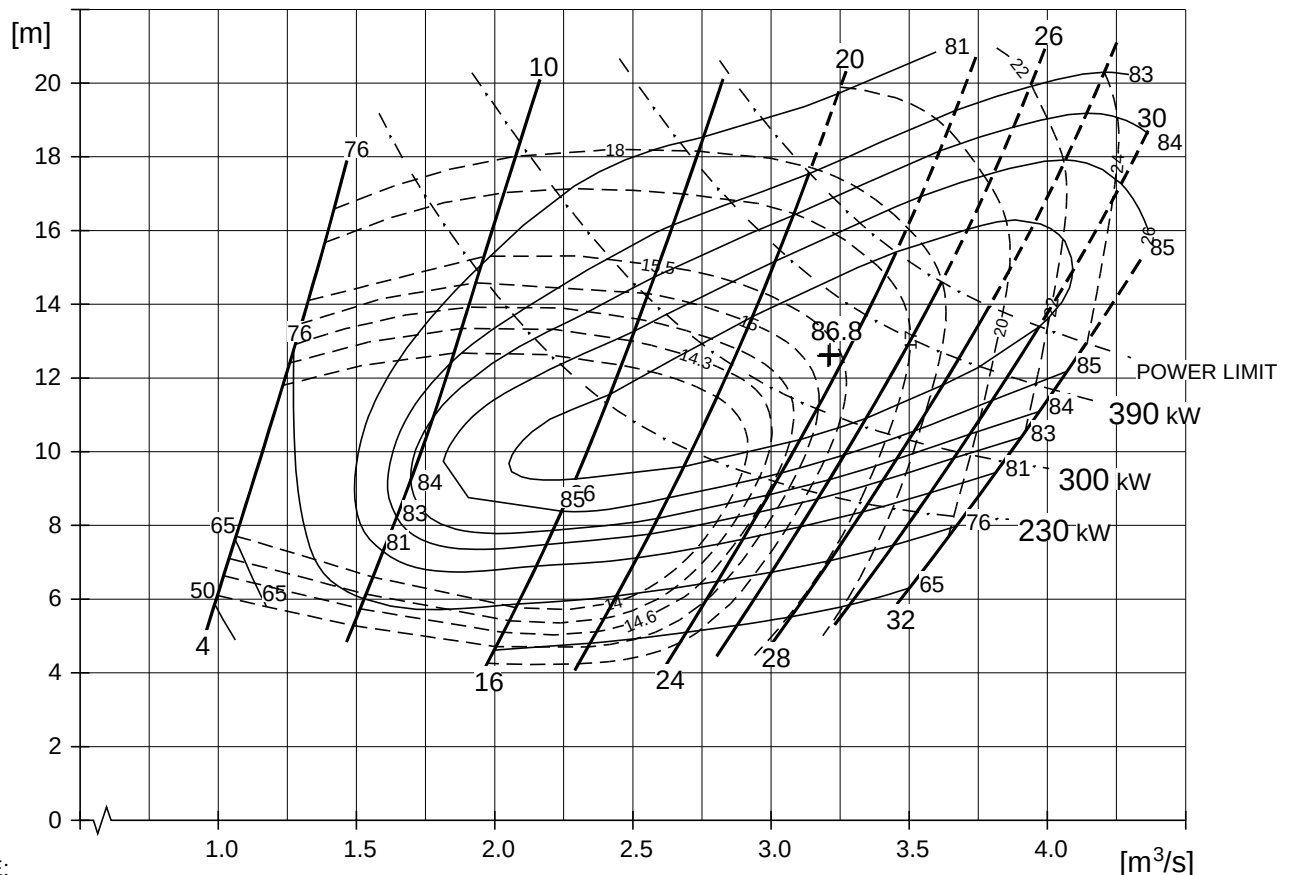
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

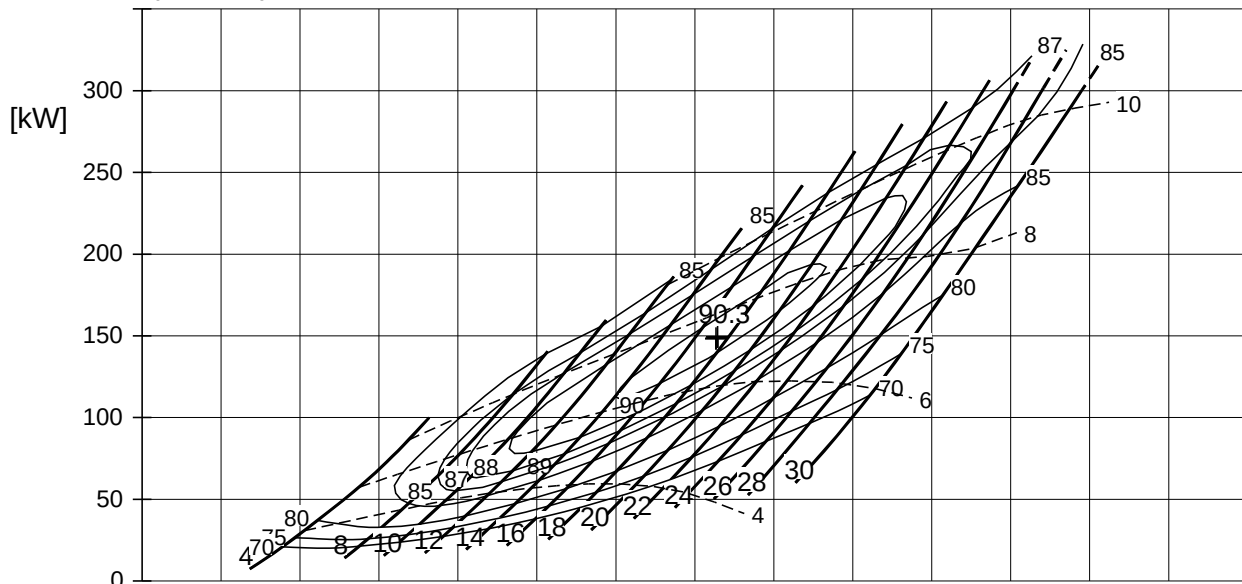
53- 430 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
430 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
905	66-46-14AA	14	160 kW
905	66-56-14AA	14	200
935	66-66-14AA	14	250
935	66-76-14AA	14	300

POWER (SHAFT)

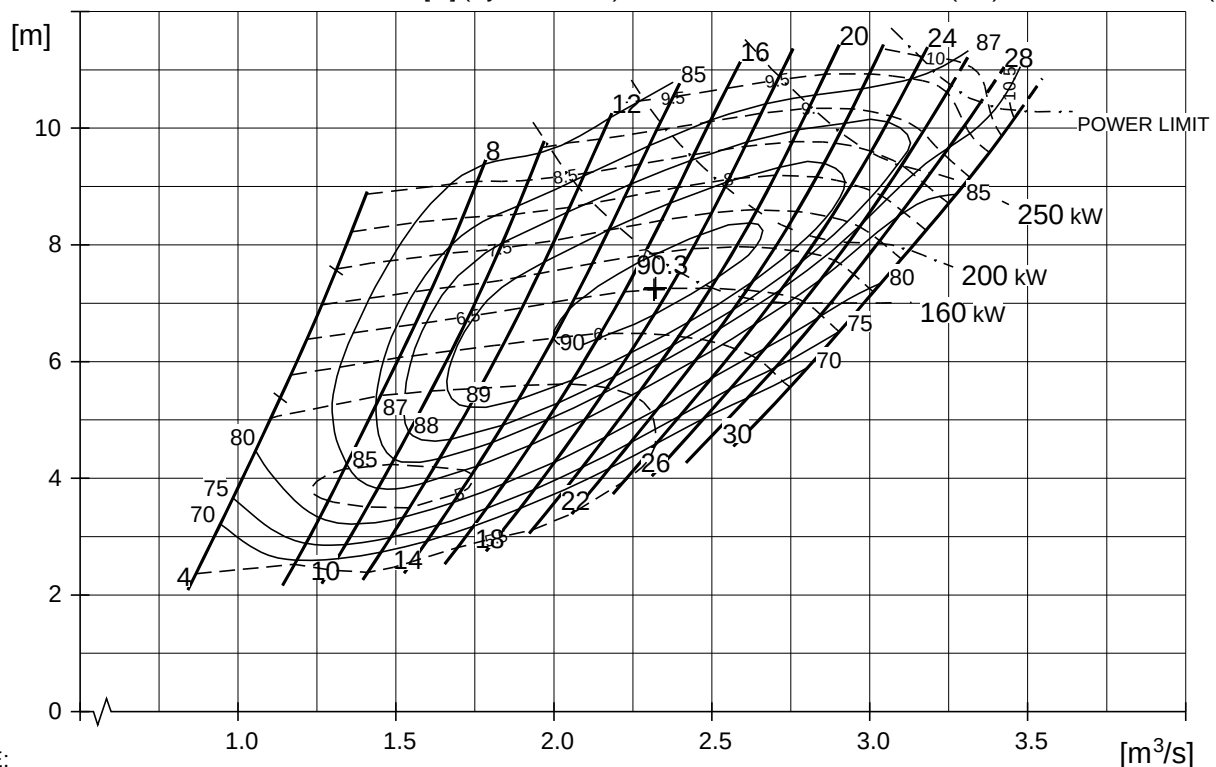
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

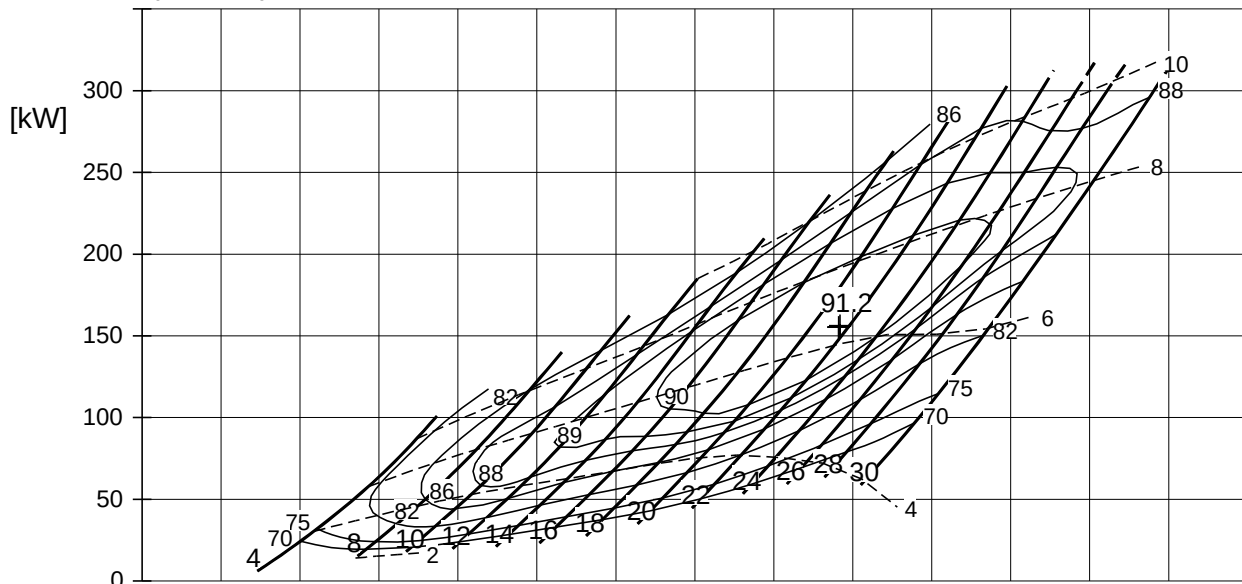
CURVE NO

53- 430 C4EDATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
430 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
905	66-46-14AA	14	160 kW
905	66-56-14AA	14	200
935	66-66-14AA	14	250
935	66-76-14AA	14	300

POWER (SHAFT)

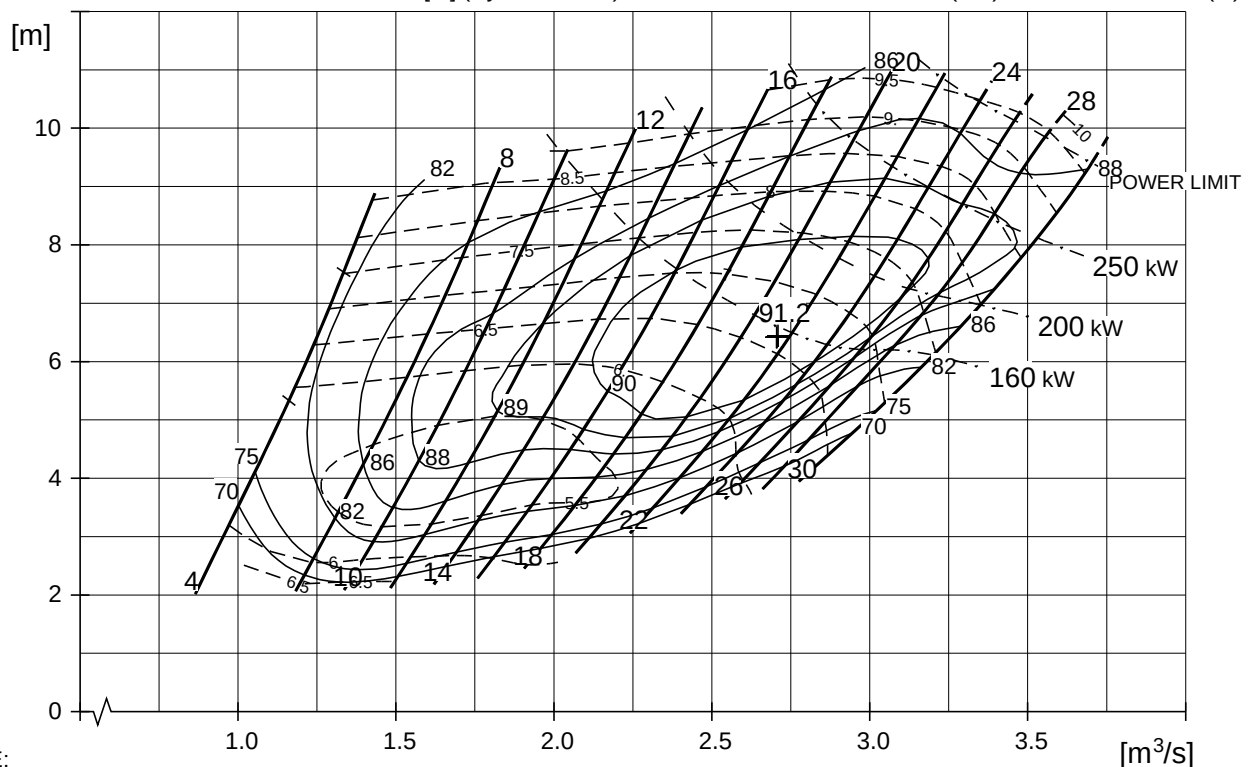
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

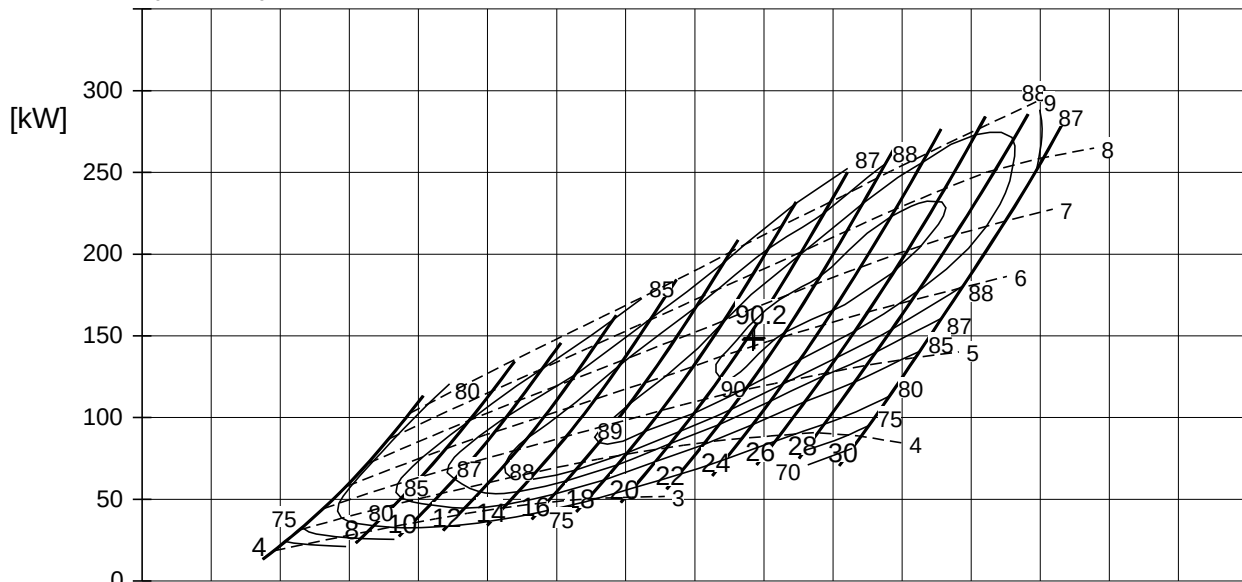
53- 430 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
430 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
905	66-46-14AA	14	160 kW
905	66-56-14AA	14	200
935	66-66-14AA	14	250
935	66-76-14AA	14	300

POWER (SHAFT)

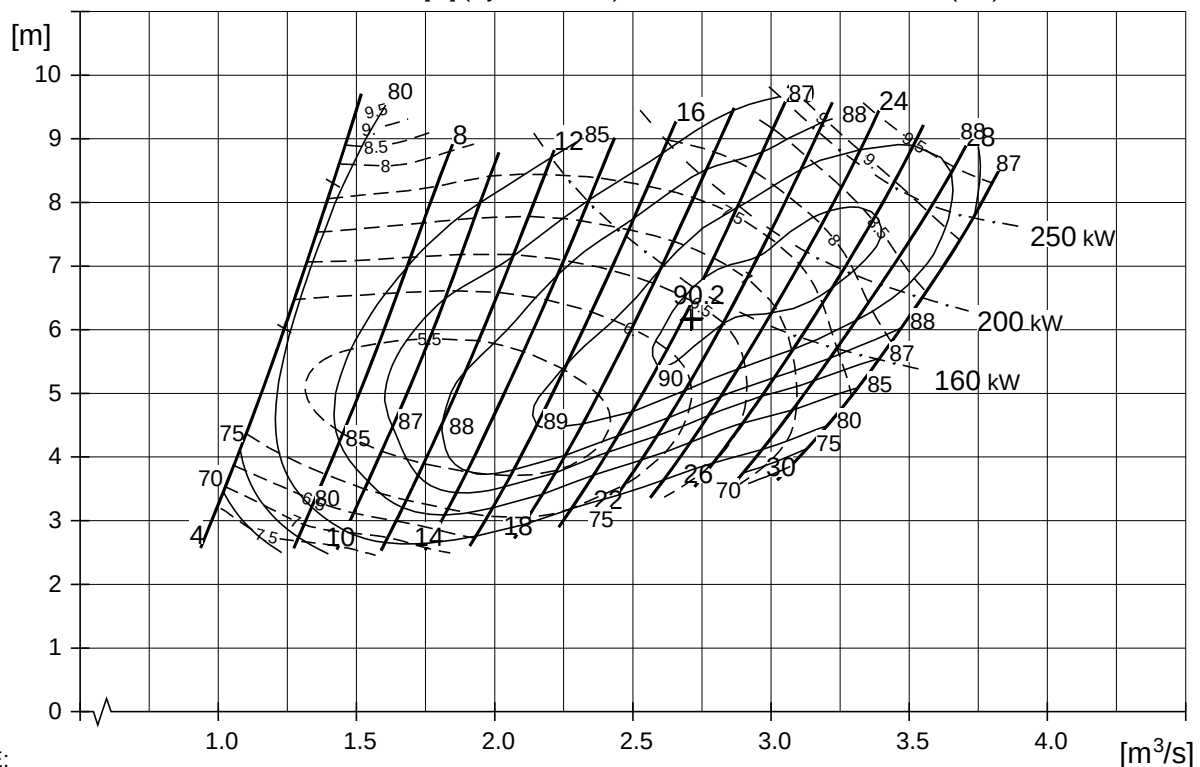
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

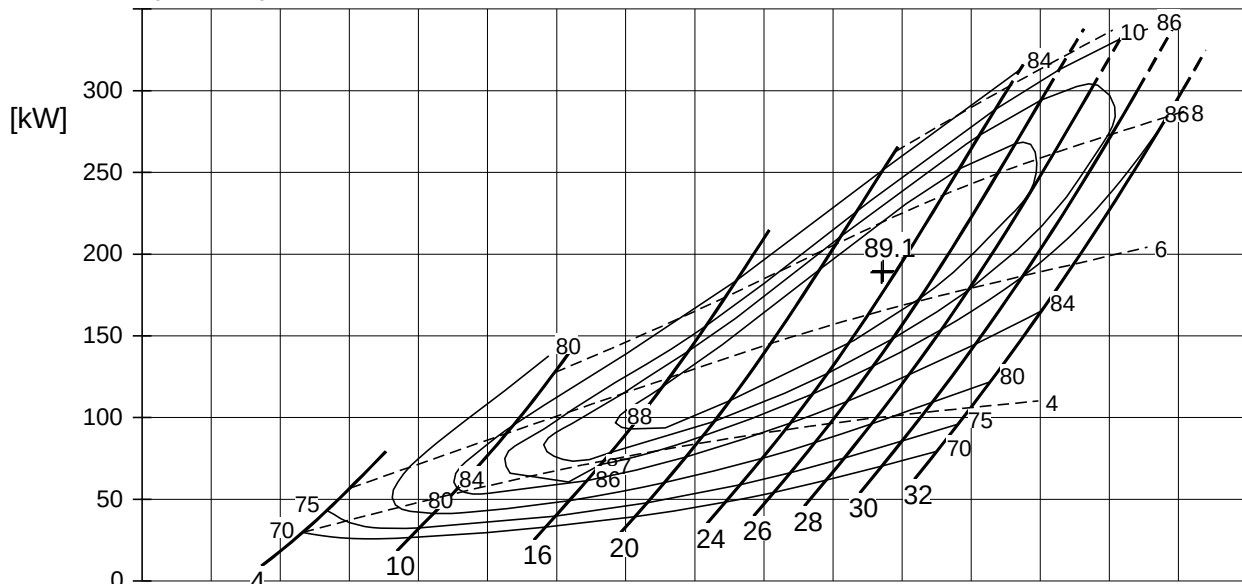
53- 430 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
430 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
905	66-46-14AA	14	160 kW
905	66-56-14AA	14	200
935	66-66-14AA	14	250
935	66-76-14AA	14	300

POWER (SHAFT)

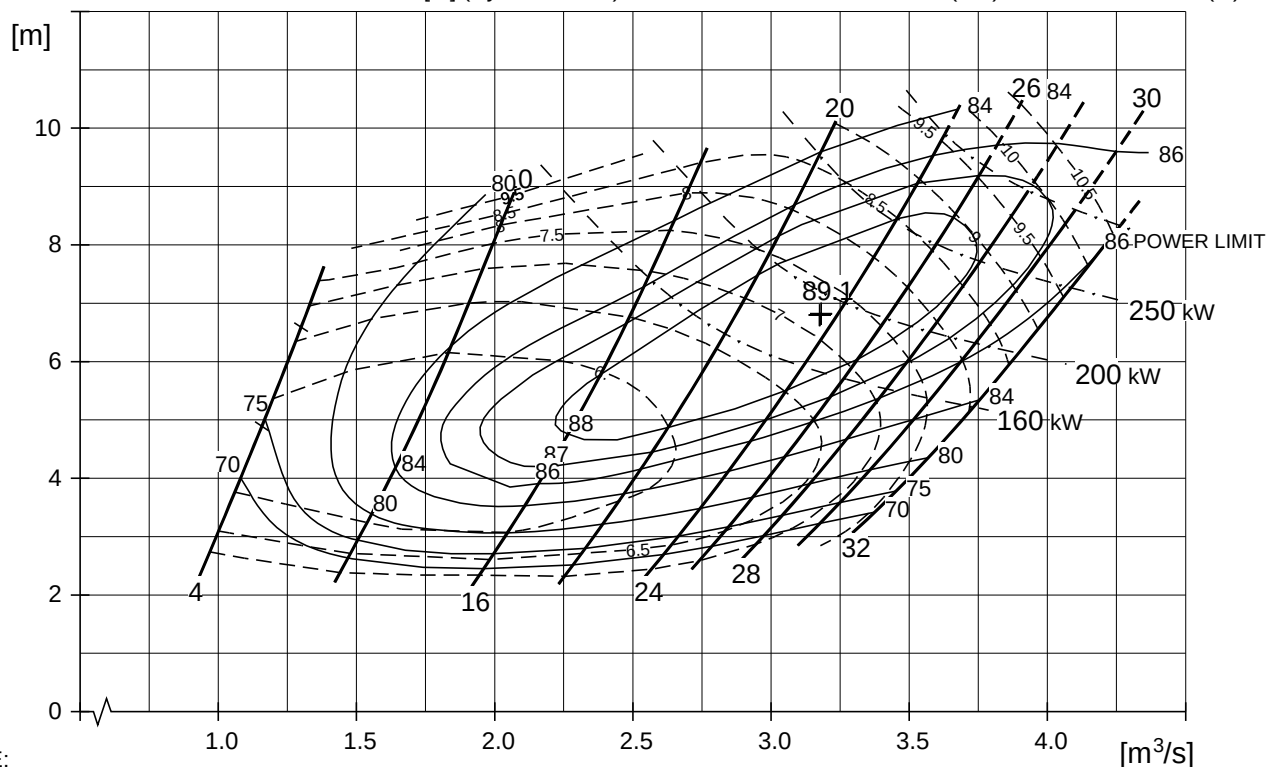
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

53- 505 C4E

DATE
2016-02-10

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
505 RPM

IMPELLER/HUB DIAMETER
850 / 400 mm

GUIDE VANE(S)
50 deg

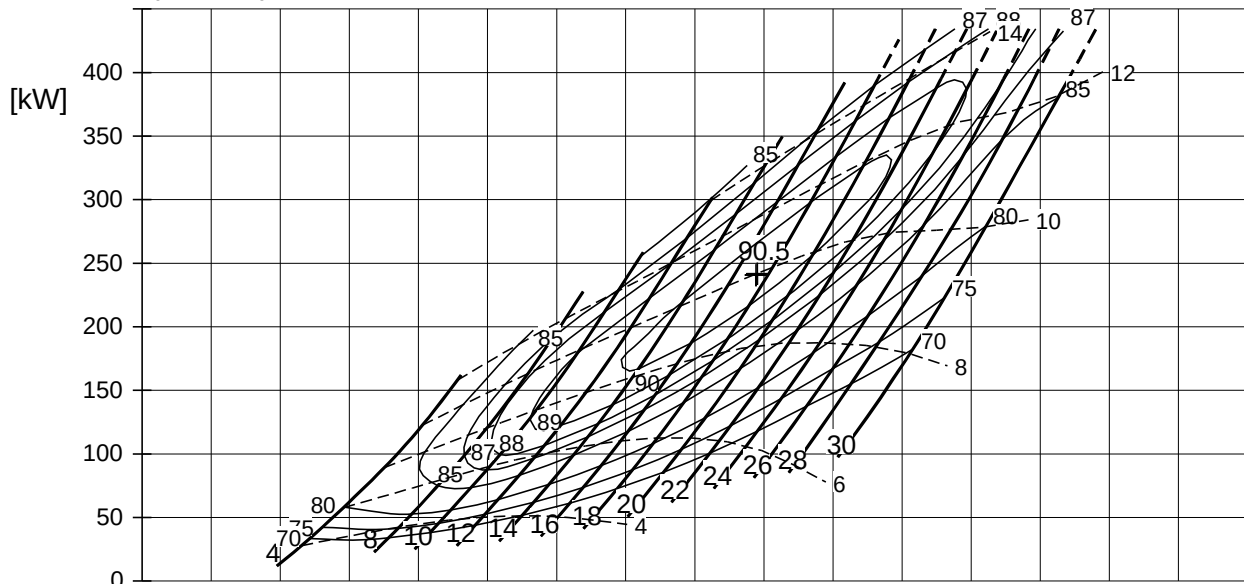
NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
905	66-46-12AA	12	250 kW
905	66-56-12AA	12	290
935	66-66-12AA	12	350
935	66-76-12AA	12	395

POWER (SHAFT)

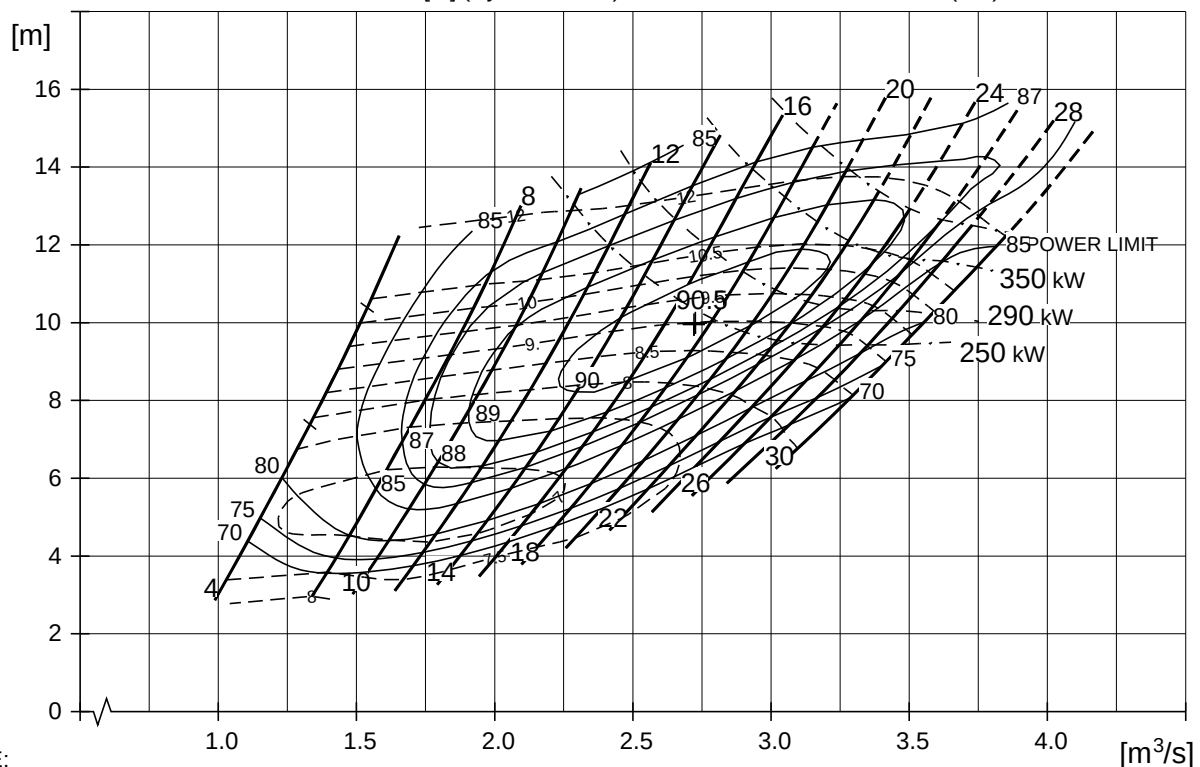
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

53- 505 C4E

DATE
2016-02-10

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
505 RPM

IMPELLER/HUB DIAMETER
850 / 400 mm

GUIDE VANE(S)
57 deg

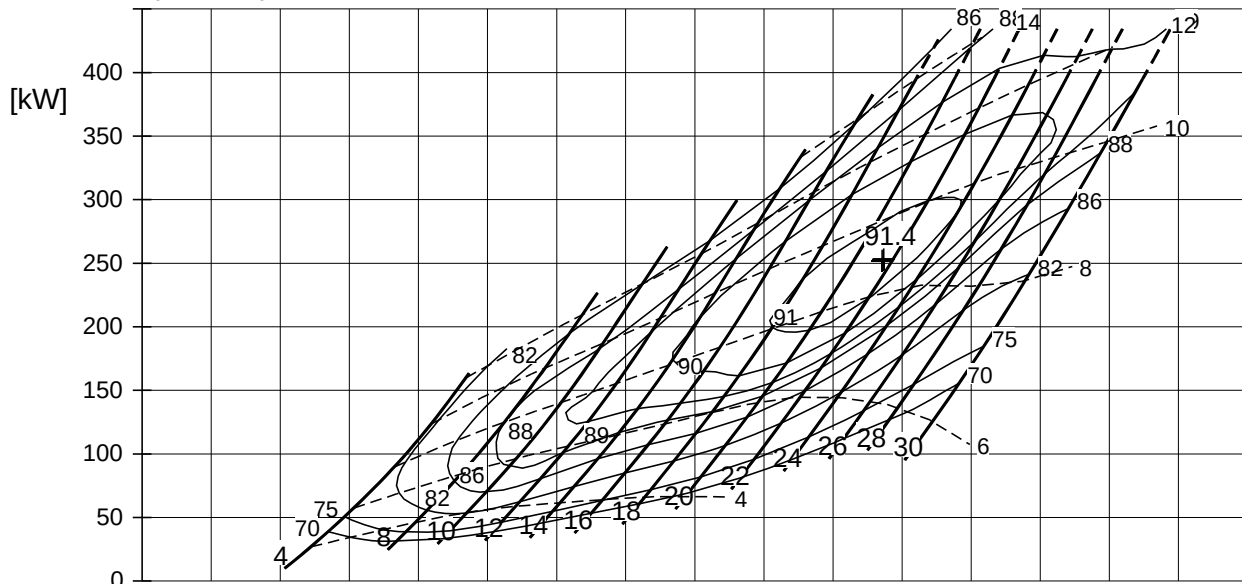
NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
905	66-46-12AA	12	250 kW
905	66-56-12AA	12	290
935	66-66-12AA	12	350
935	66-76-12AA	12	395

POWER (SHAFT)

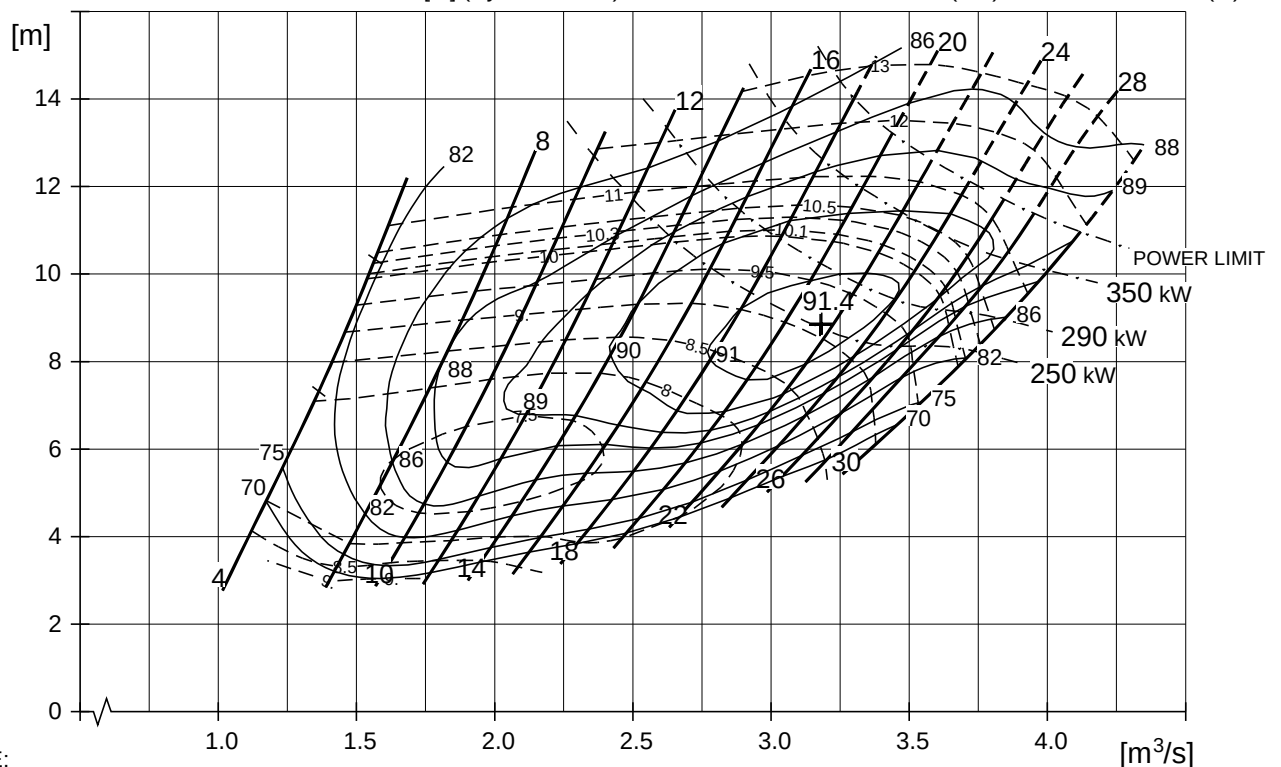
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

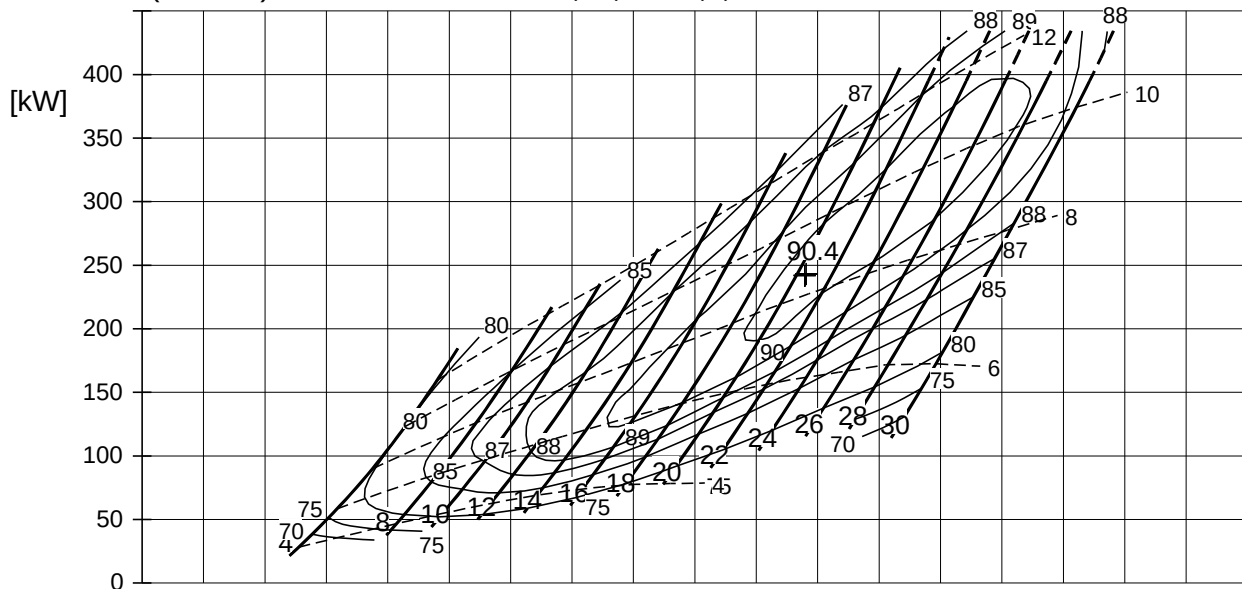
53- 505 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
505 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
905	66-46-12AA	12	250 kW
905	66-56-12AA	12	290
935	66-66-12AA	12	350
935	66-76-12AA	12	395

POWER (SHAFT)

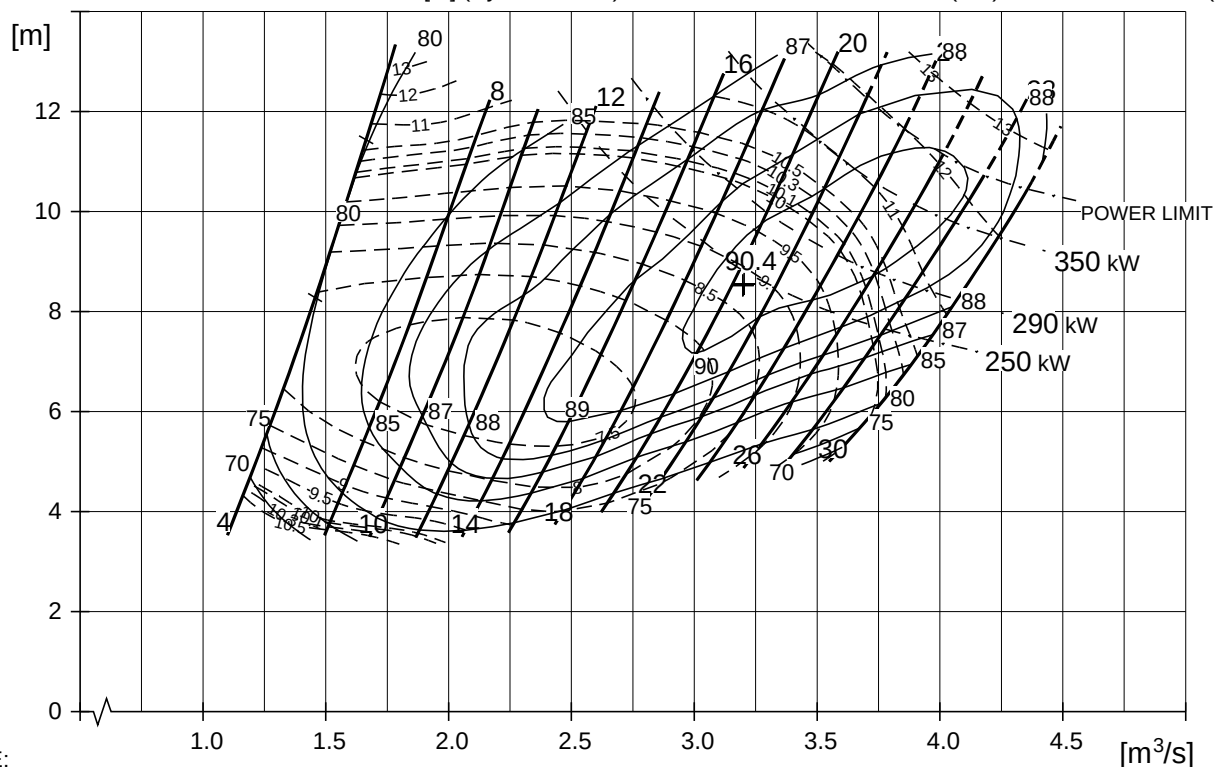
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

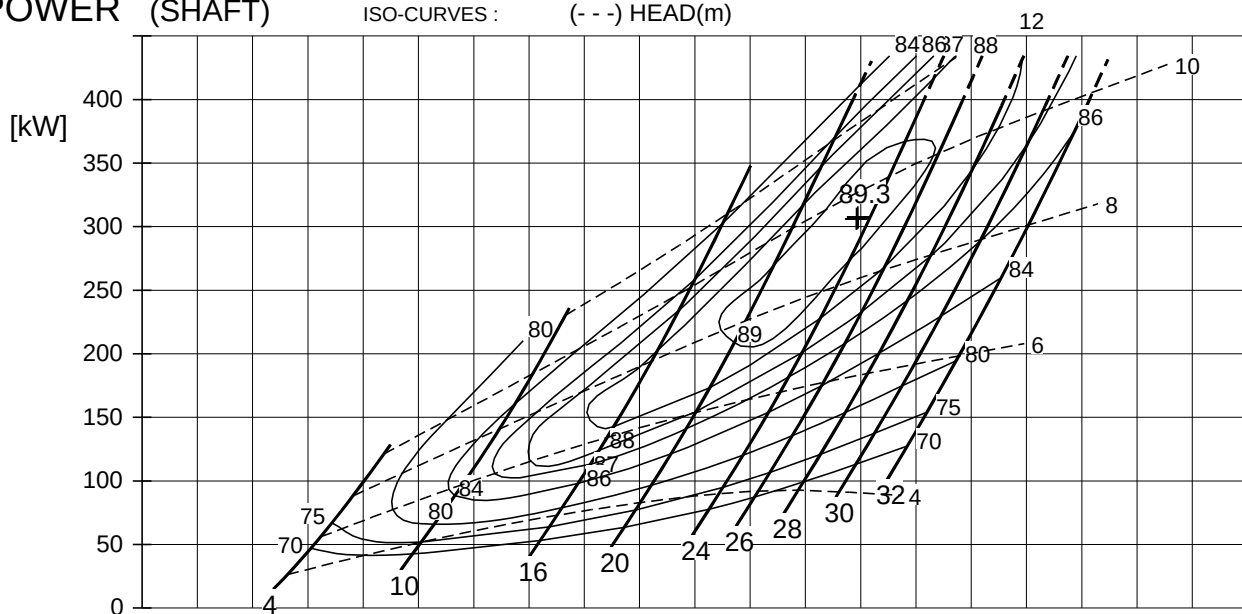
CURVE NO

53- 505 C4EDATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
505 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **32** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
905	66-46-12AA	12	250 kW
905	66-56-12AA	12	290
935	66-66-12AA	12	350
935	66-76-12AA	12	395

POWER (SHAFT)

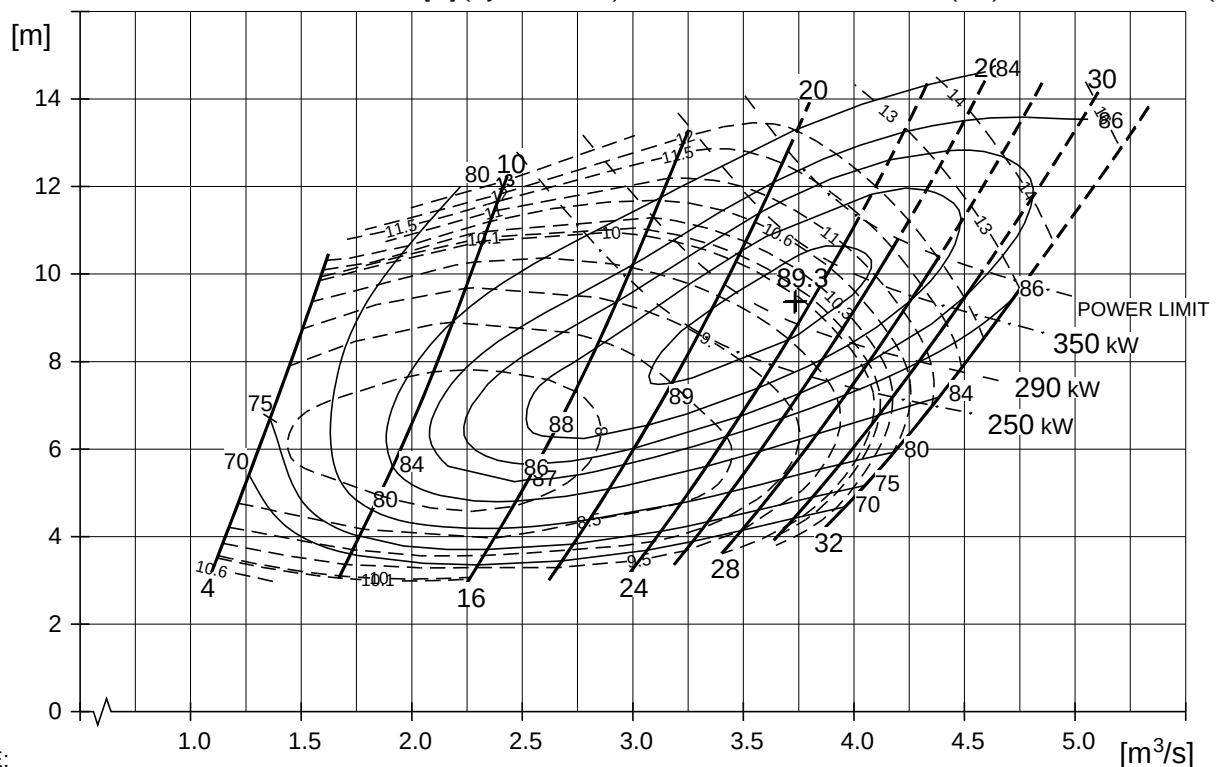
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE**FLOW**



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

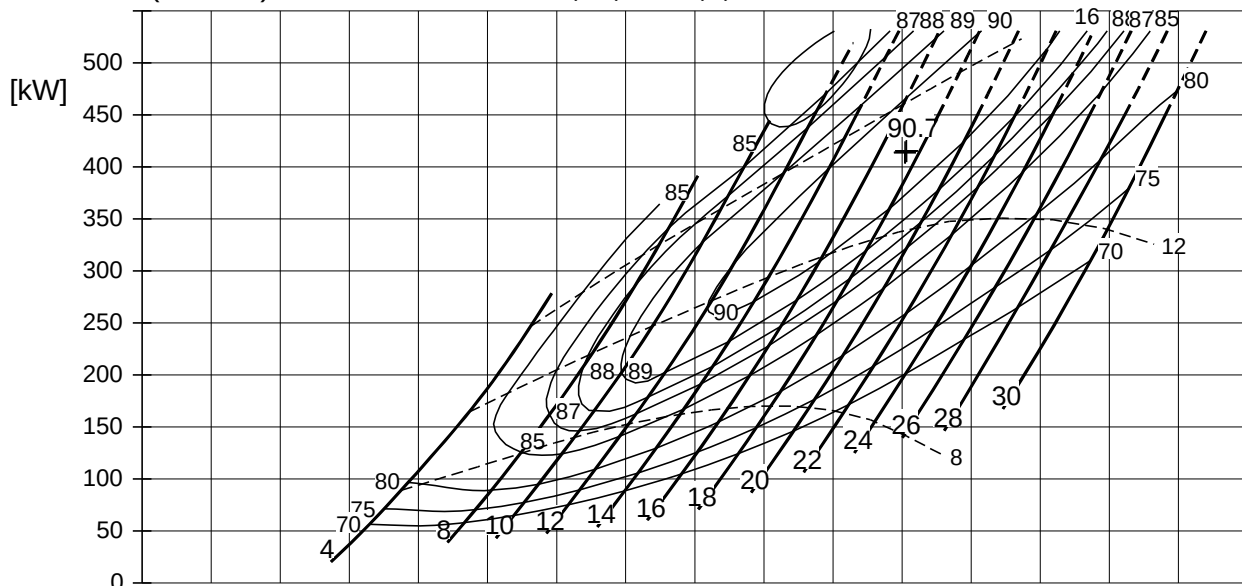
53- 605 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
605 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
905	66-46-10AA	10	290 kW
905	66-56-10AA	10	365
935	66-66-10AA	10	400
935	66-76-10AA	10	460

POWER (SHAFT)

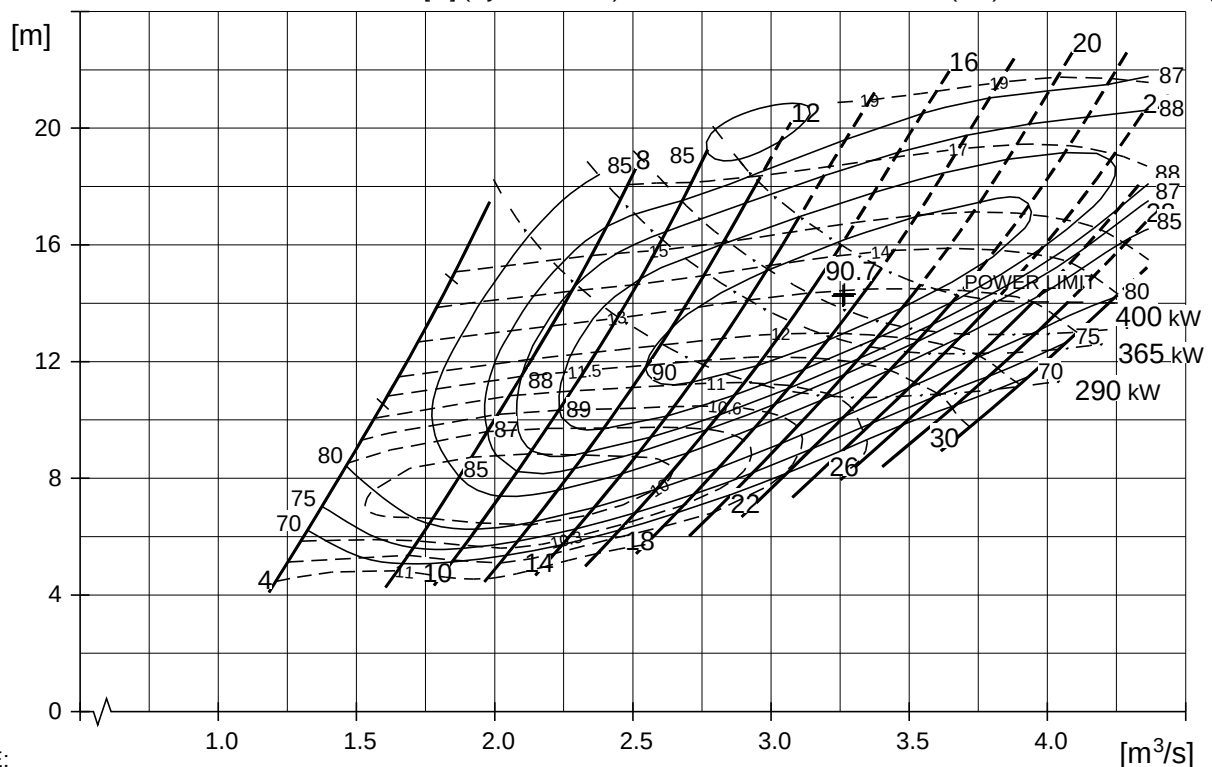
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

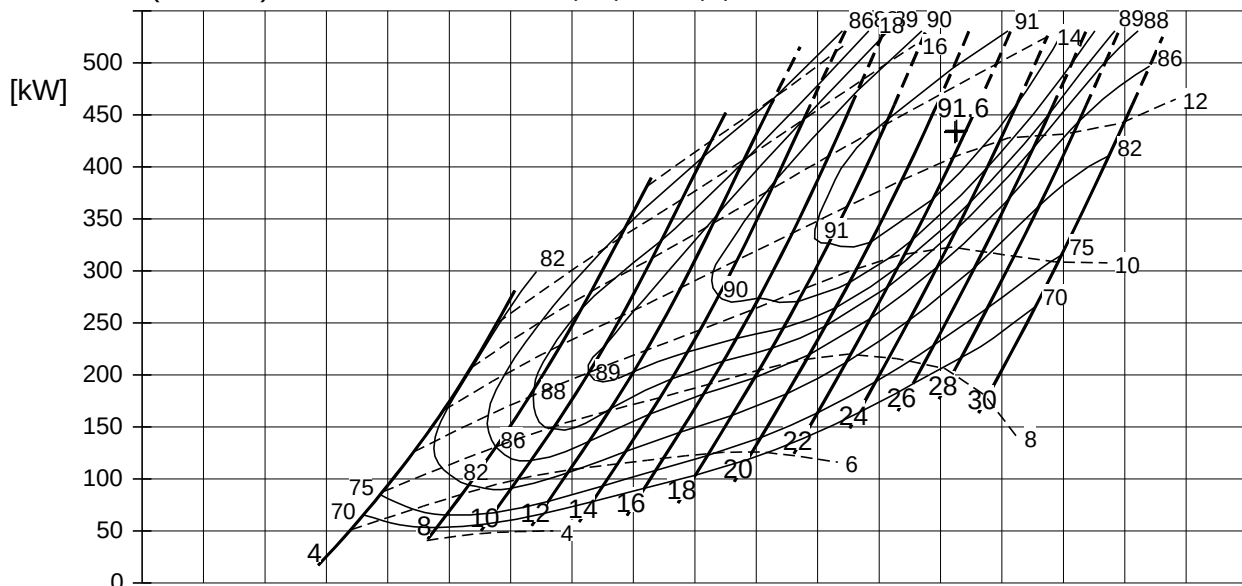
53- 605 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
605 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
905	66-46-10AA	10	290 kW
905	66-56-10AA	10	365
935	66-66-10AA	10	400
935	66-76-10AA	10	460

POWER (SHAFT)

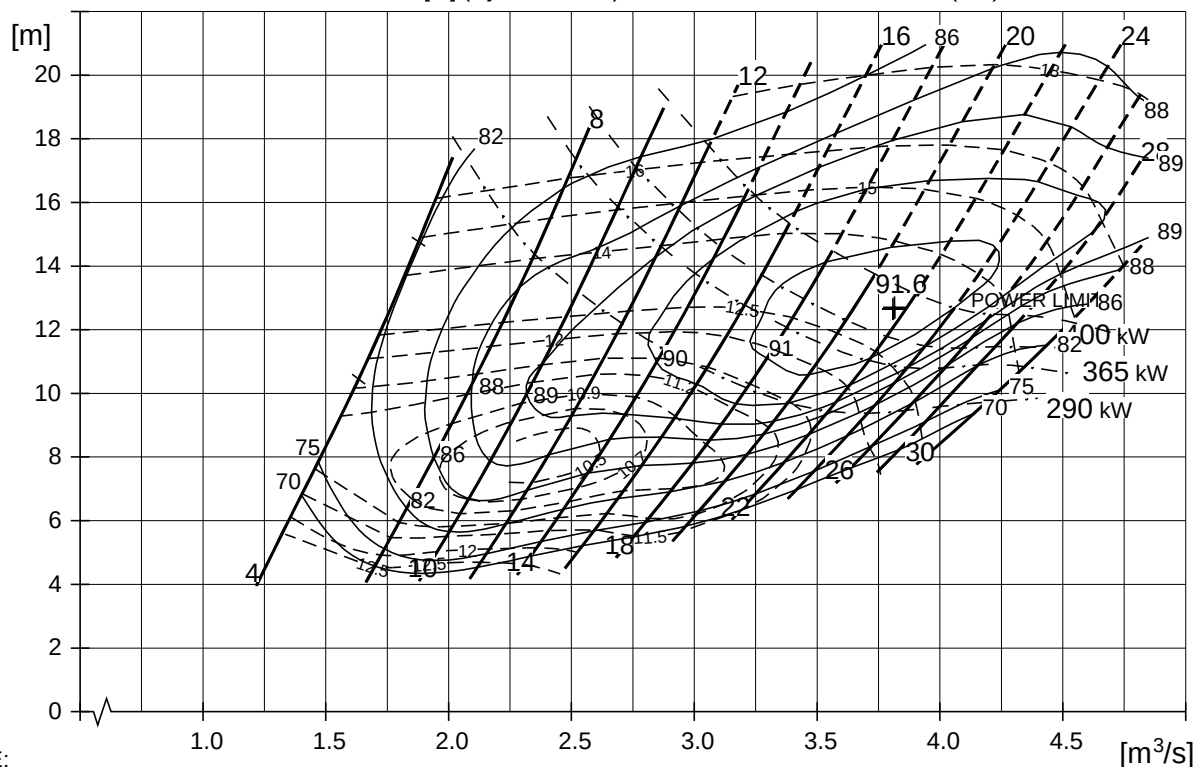
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

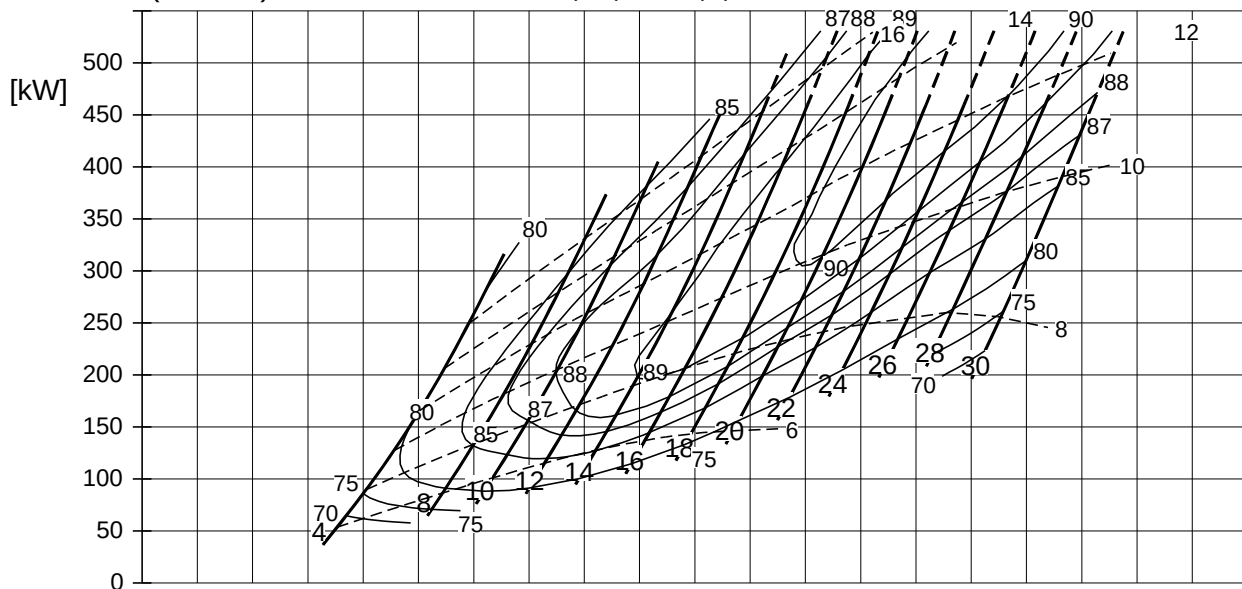
53- 605 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
605 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
905	66-46-10AA	10	290 kW
905	66-56-10AA	10	365
935	66-66-10AA	10	400
935	66-76-10AA	10	460

POWER (SHAFT)

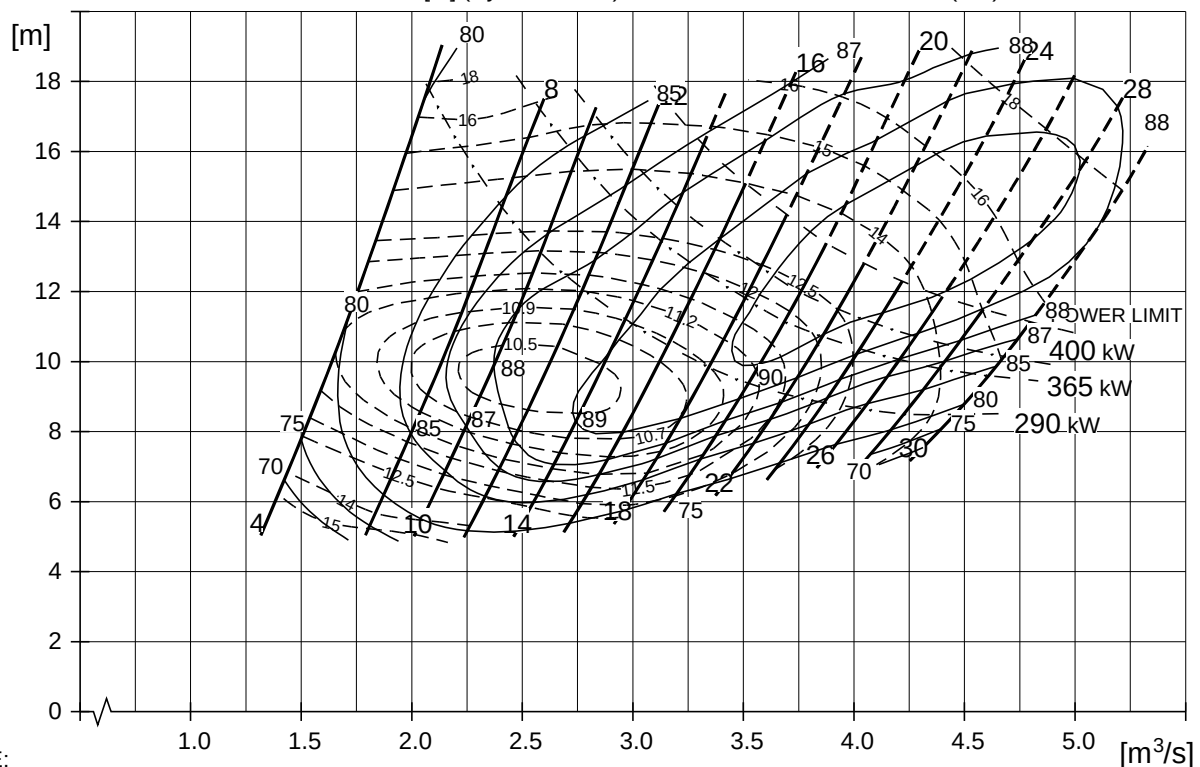
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

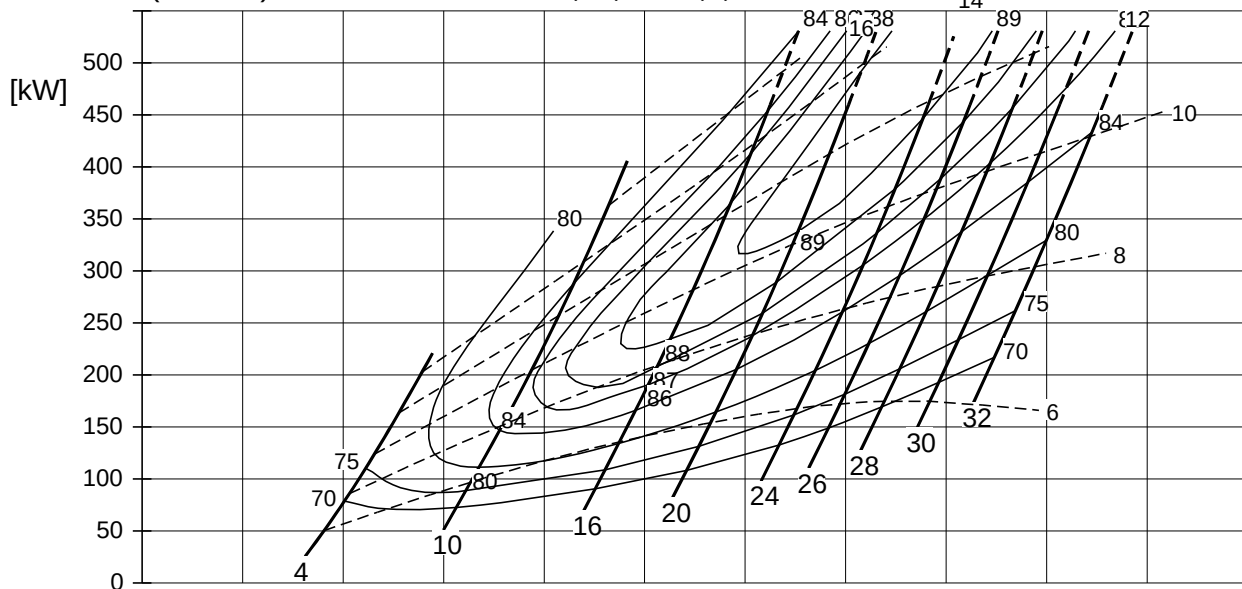
53- 605 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
605 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
905	66-46-10AA	10	290 kW
905	66-56-10AA	10	365
935	66-66-10AA	10	400
935	66-76-10AA	10	460

POWER (SHAFT)

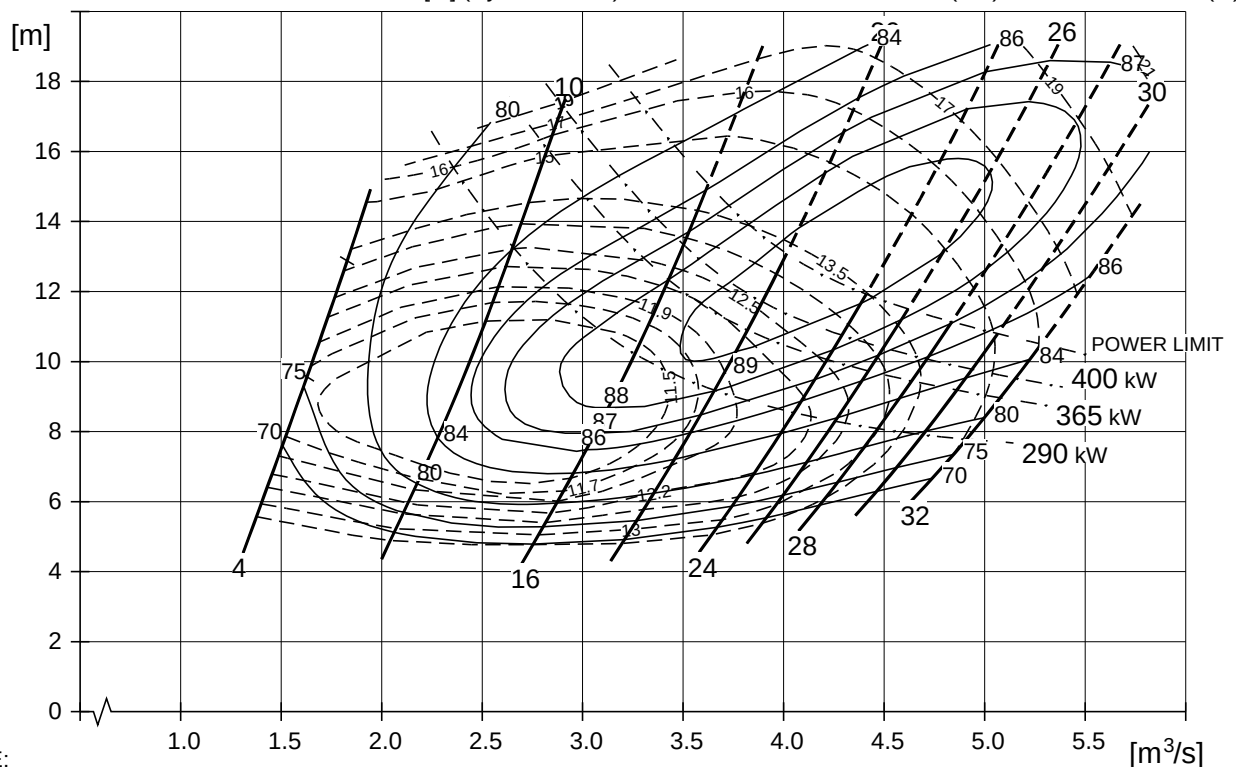
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

53- 430 C4E

DATE
2016-02-14

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
430 RPM

IMPELLER/HUB DIAMETER
1000 / 480 mm

GUIDE VANE(S)
50 deg

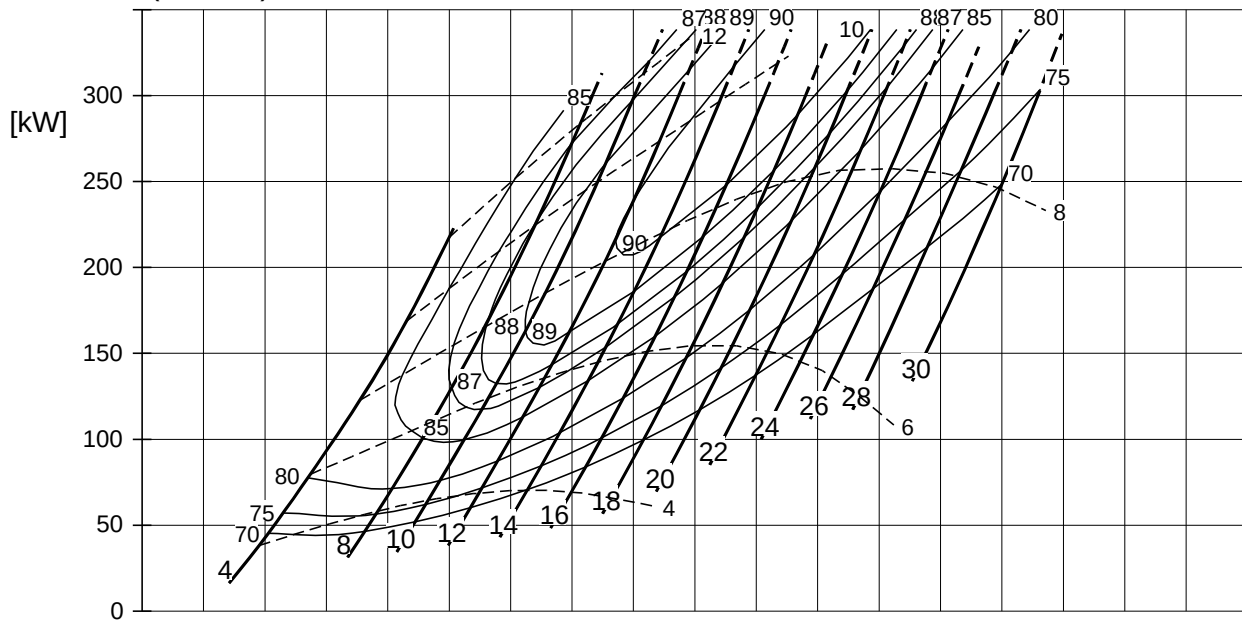
NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
935	66-66-14AA	14	250 kW
935	66-76-14AA	14	300

POWER (SHAFT)

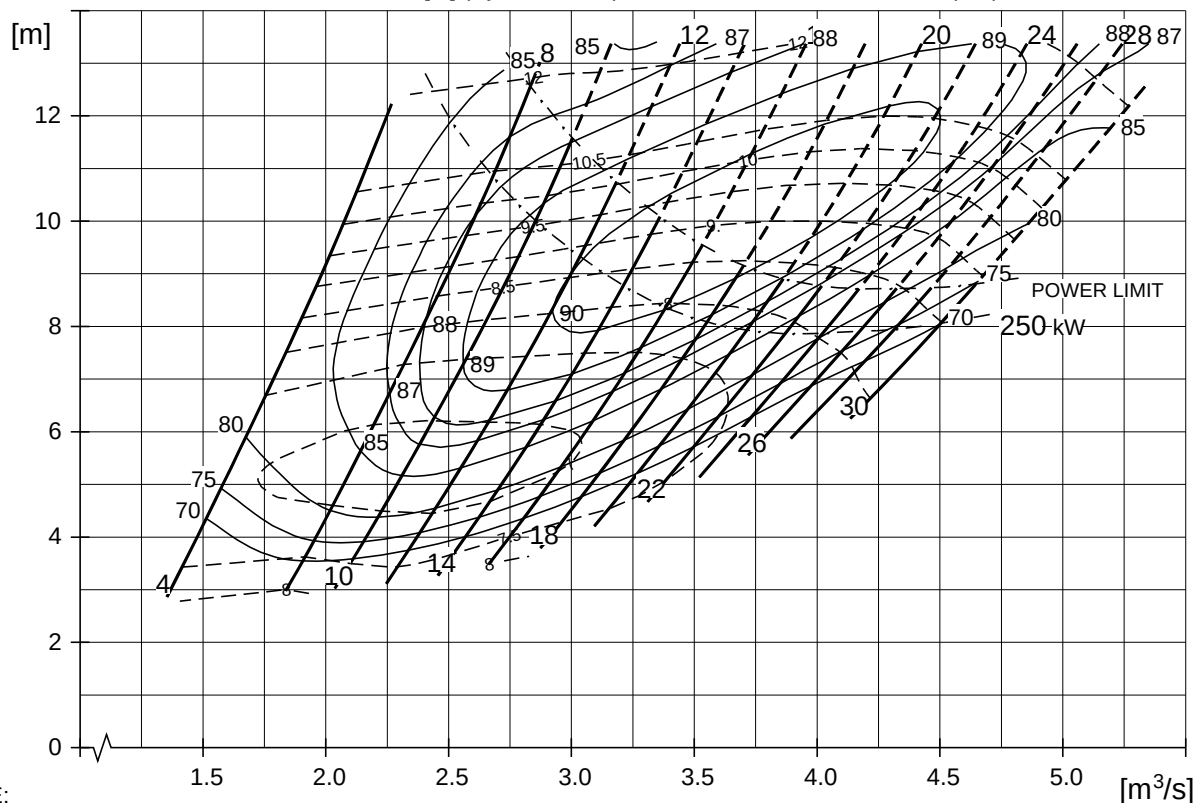
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

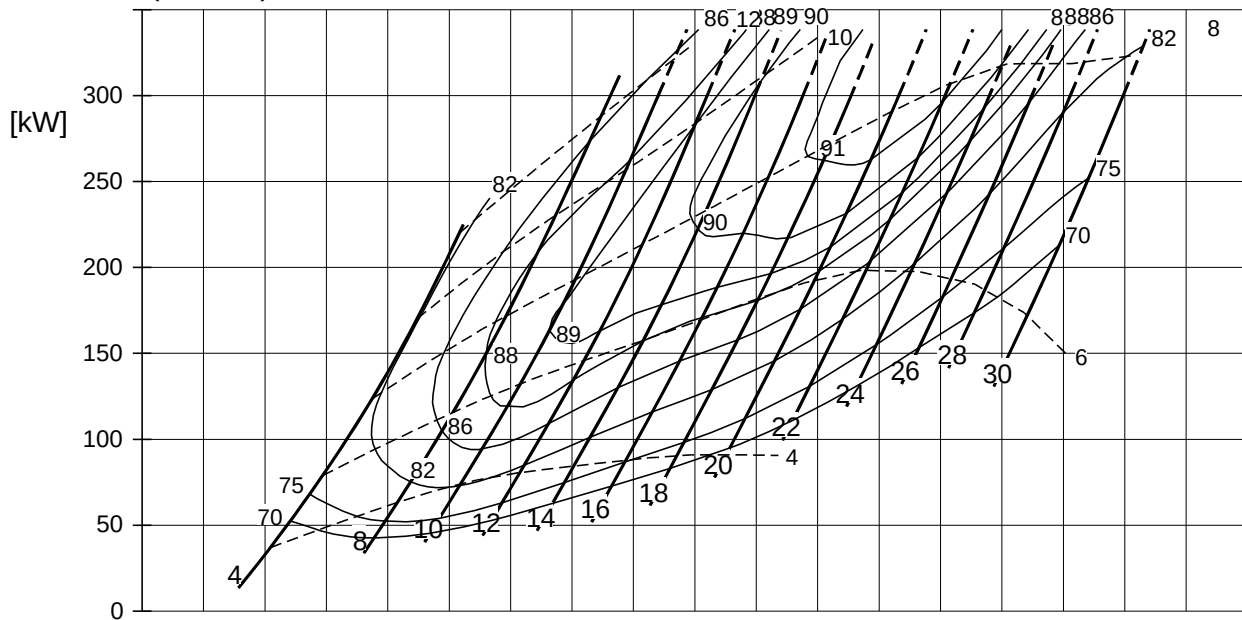
53- 430 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
430 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
935	66-66-14AA	14	250 kW
935	66-76-14AA	14	300

POWER (SHAFT)

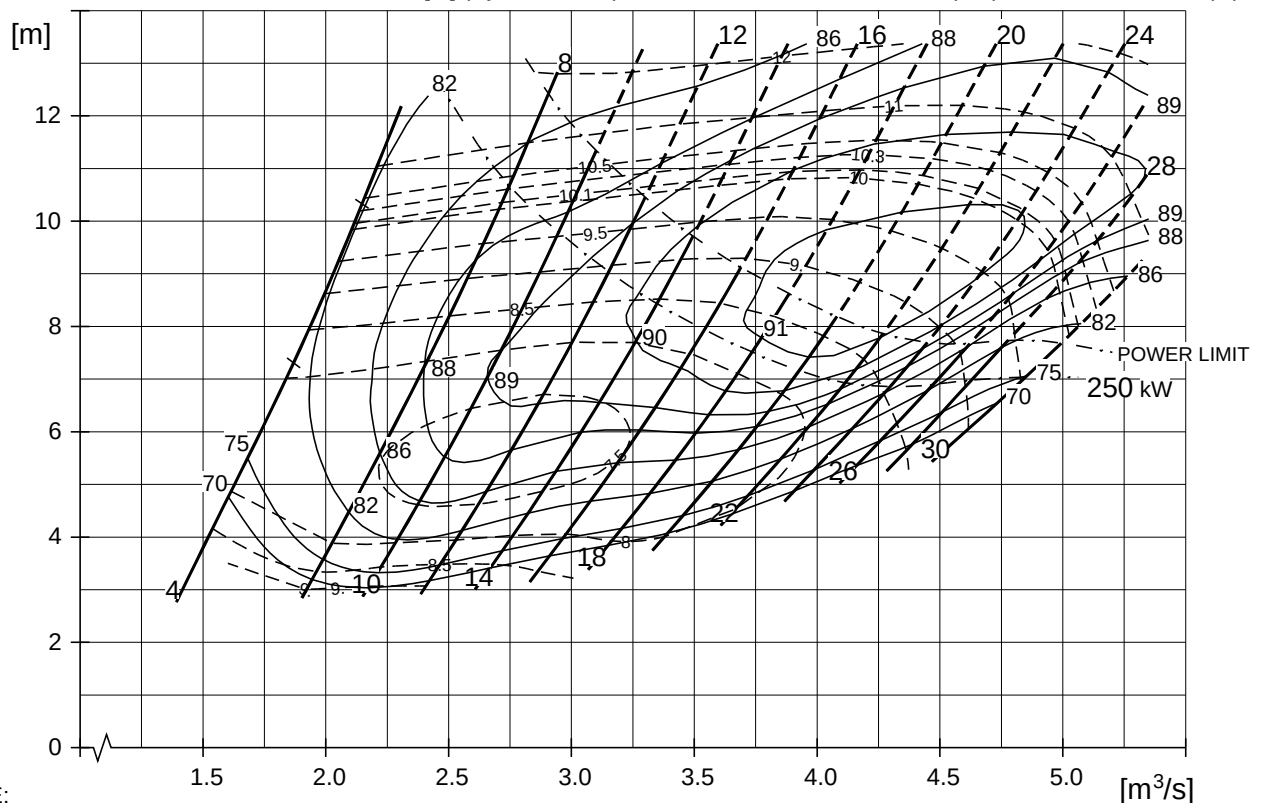
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

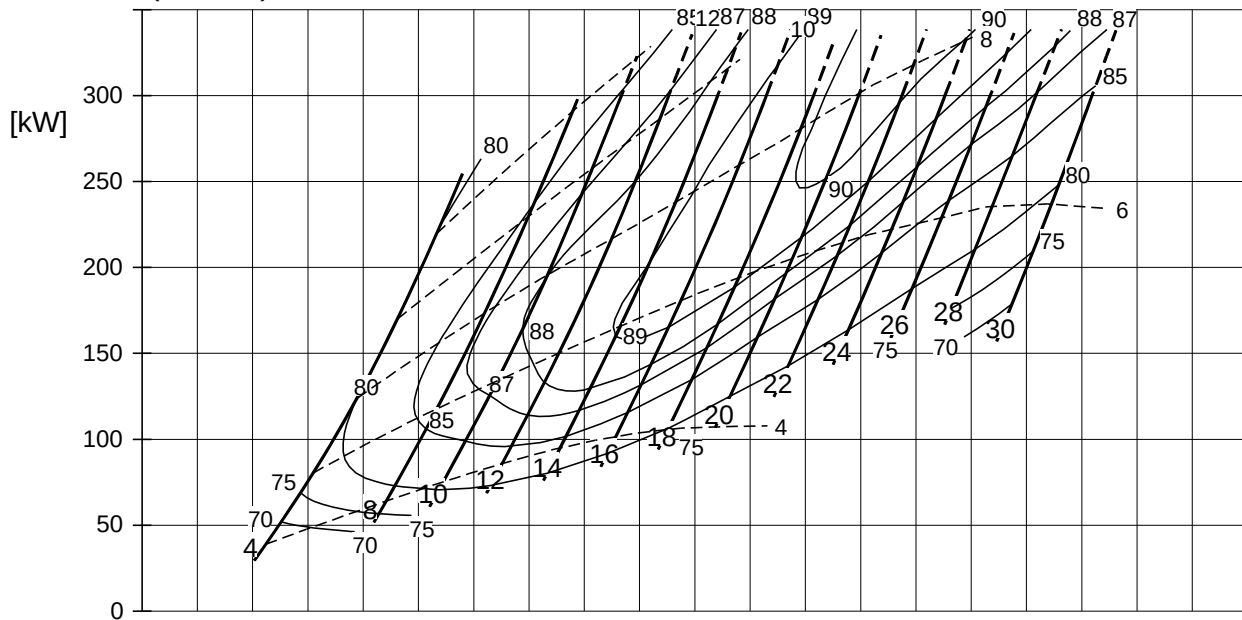
CURVE NO

53- 430 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
430 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
935
935GENERATOR
66-66-14AA
66-76-14AAPOLES
14
14GEN. POWER
250 kW
300

POWER (SHAFT)

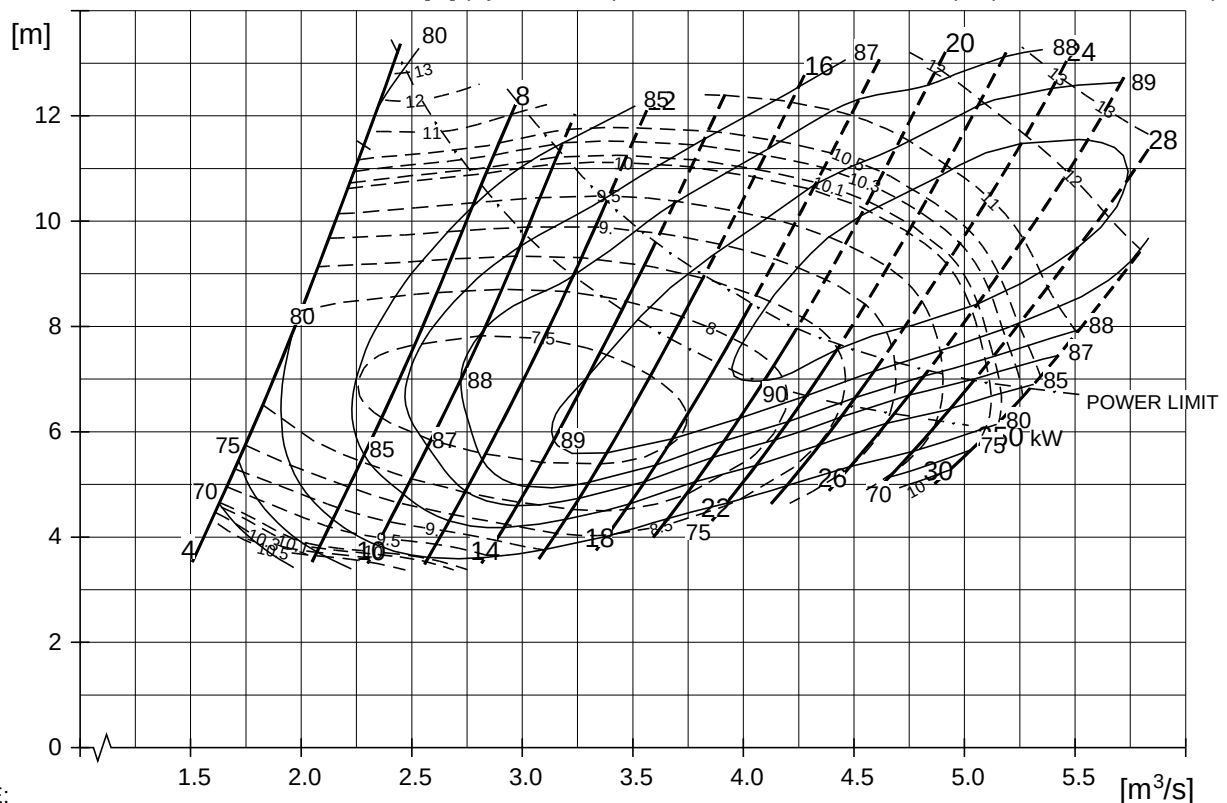
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

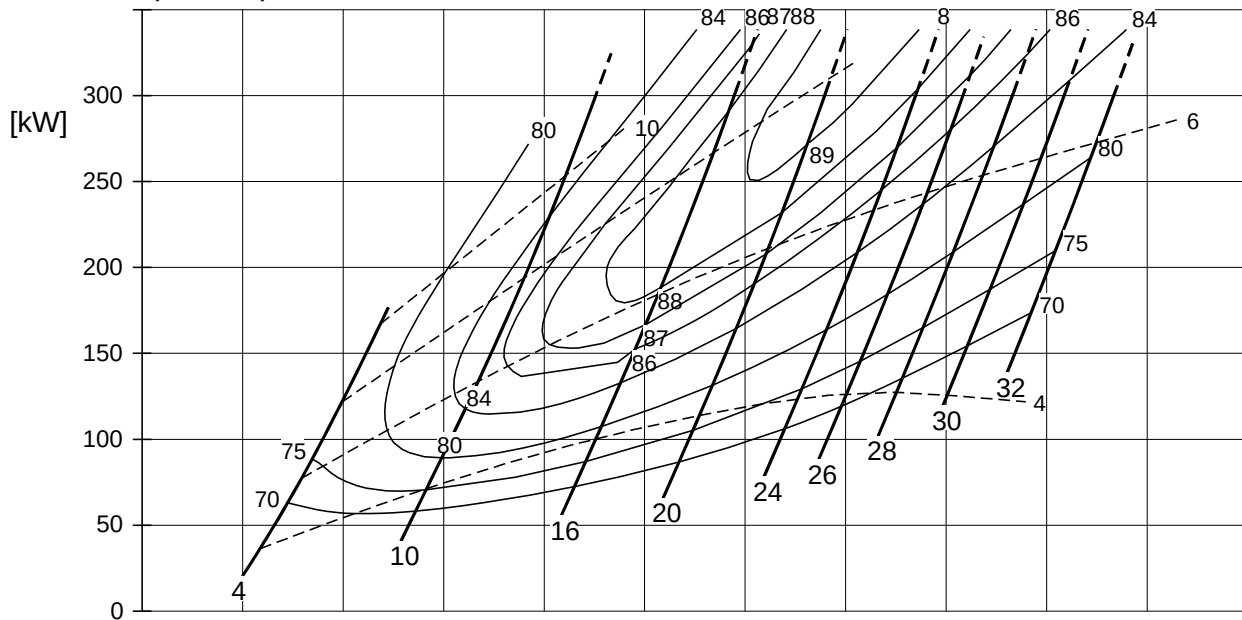
53- 430 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
430 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
935	66-66-14AA	14	250 kW
935	66-76-14AA	14	300

POWER (SHAFT)

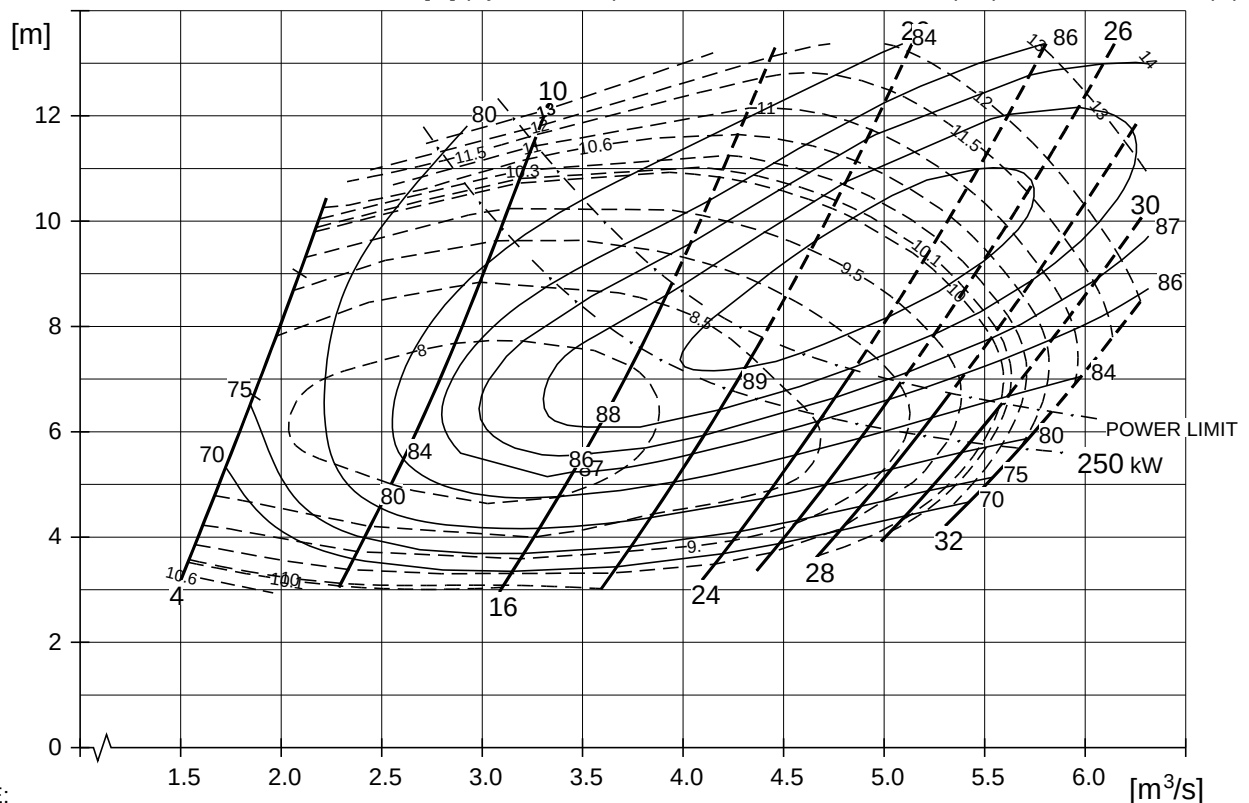
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)





TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

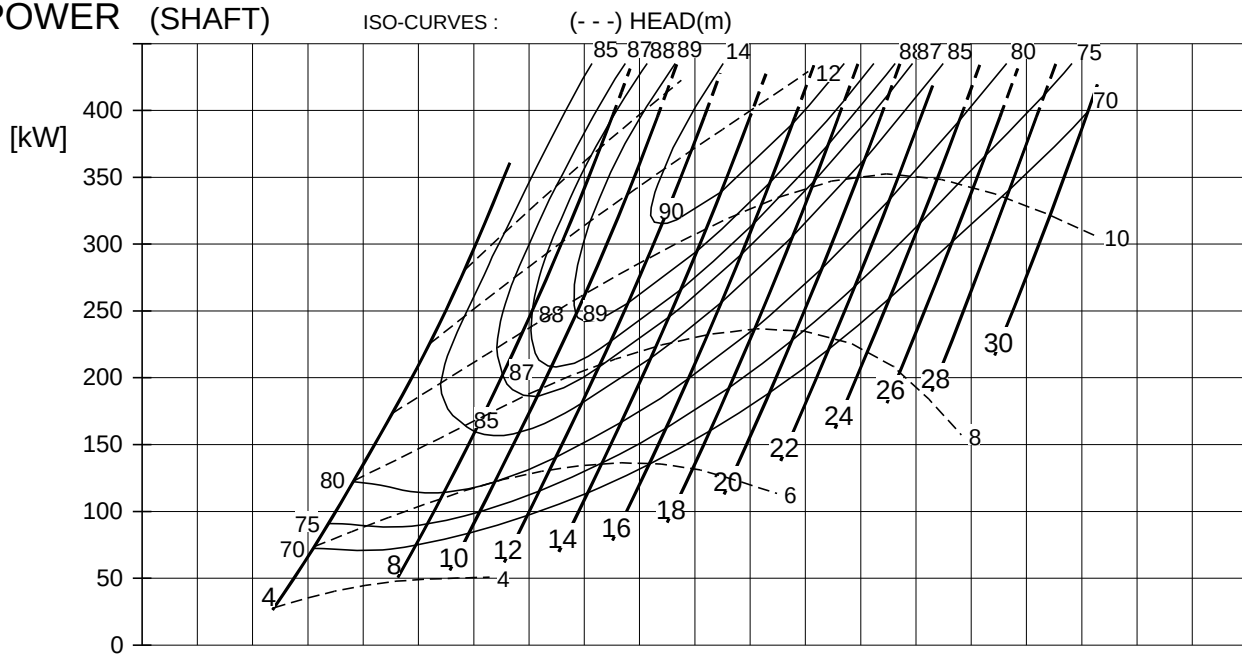
CURVE NO

53- 505 C4E

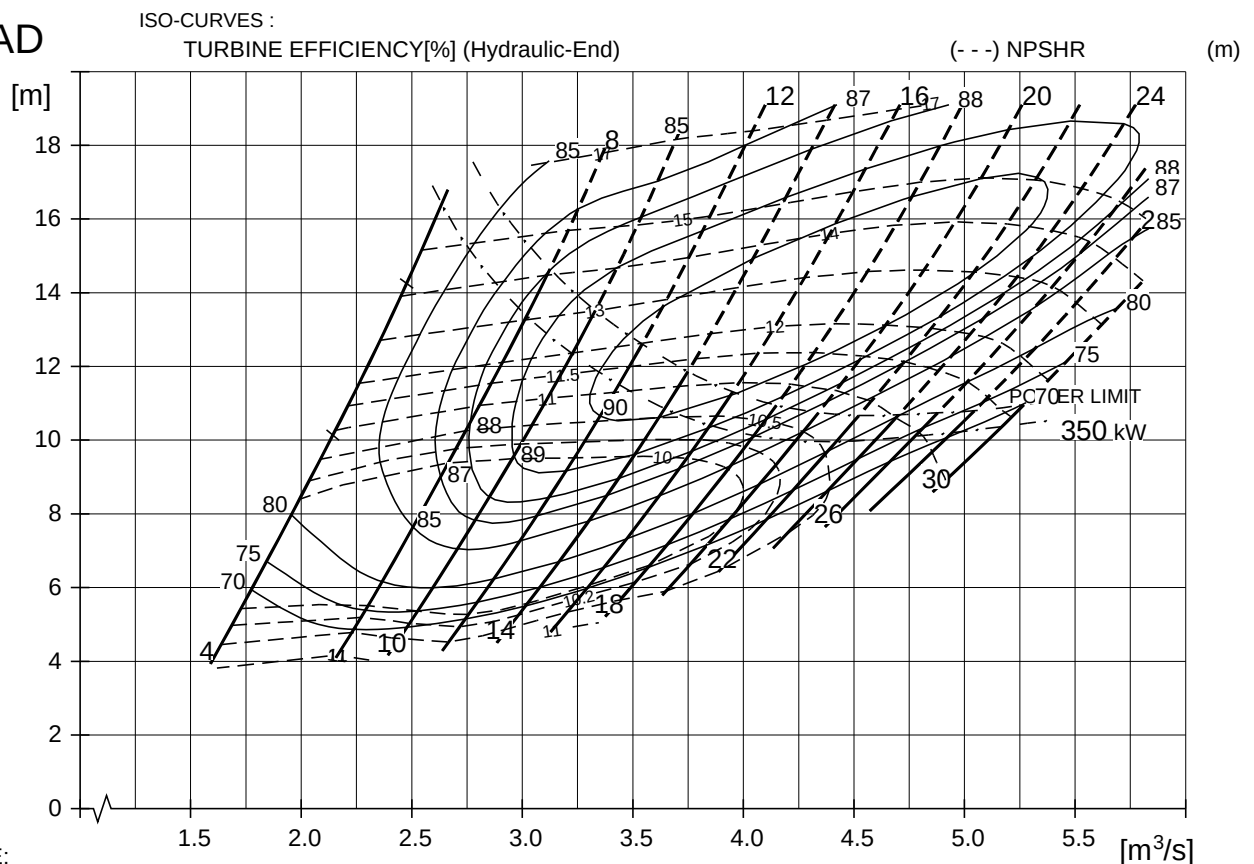
DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
505 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
935	66-66-12AA	12	350 kW
935	66-76-12AA	12	395

POWER (SHAFT)



HEAD



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

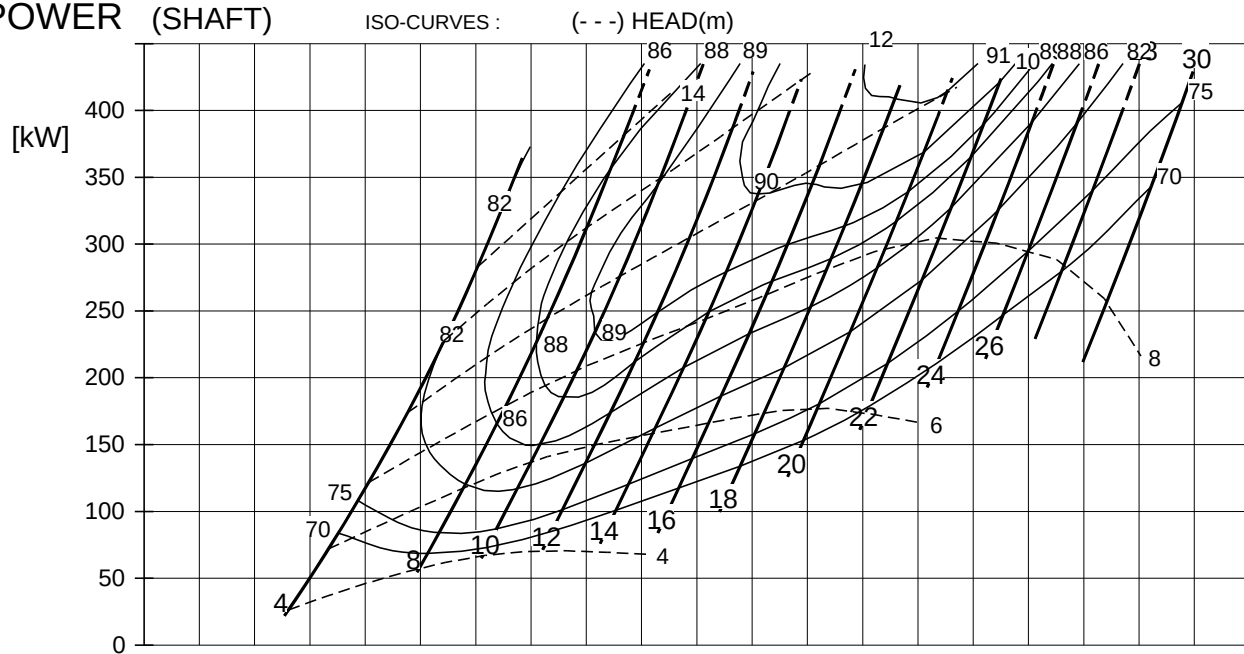
CURVE NO

53- 505 C4E

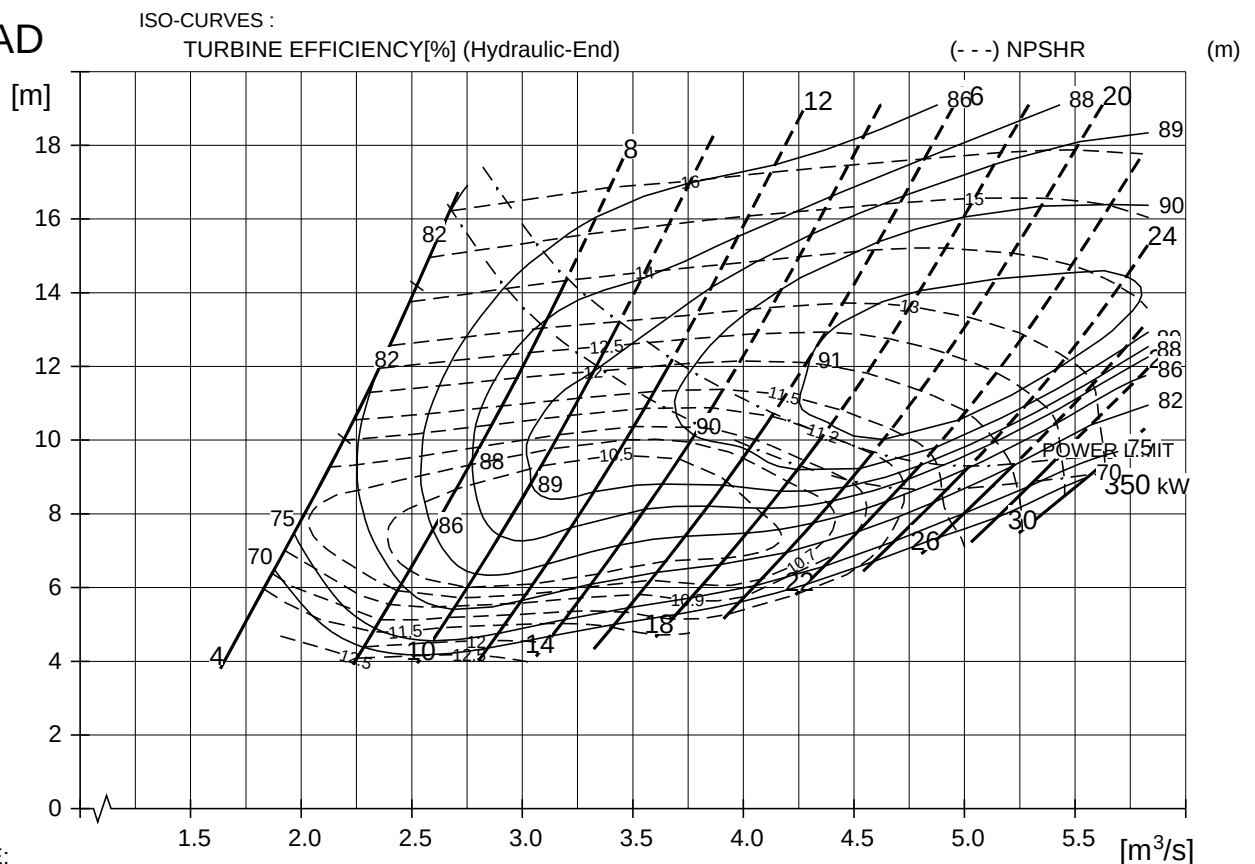
DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
505 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER
935	66-66-12AA	12	350 kW
935	66-76-12AA	12	395

POWER (SHAFT)



HEAD



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

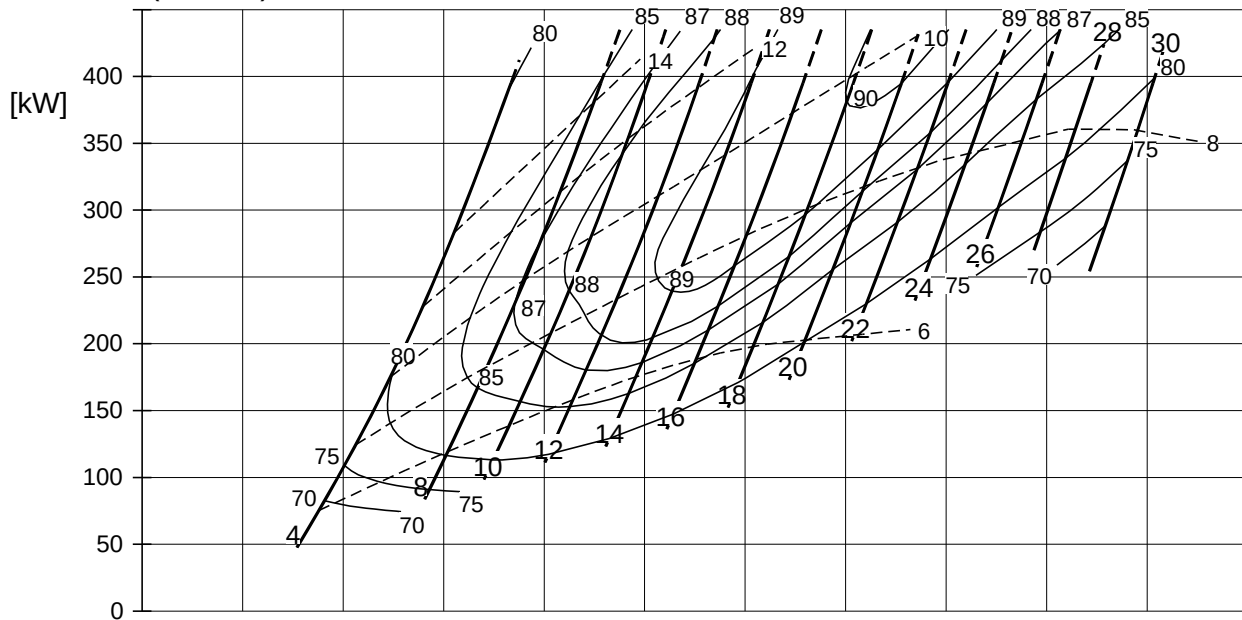
EL 7600

CURVE NO

53- 505 C4EDATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
505 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** degDRIVE UNIT
935
935GENERATOR
66-66-12AA
66-76-12AAPOLES
12
12GEN. POWER
350 kW
395

POWER (SHAFT)

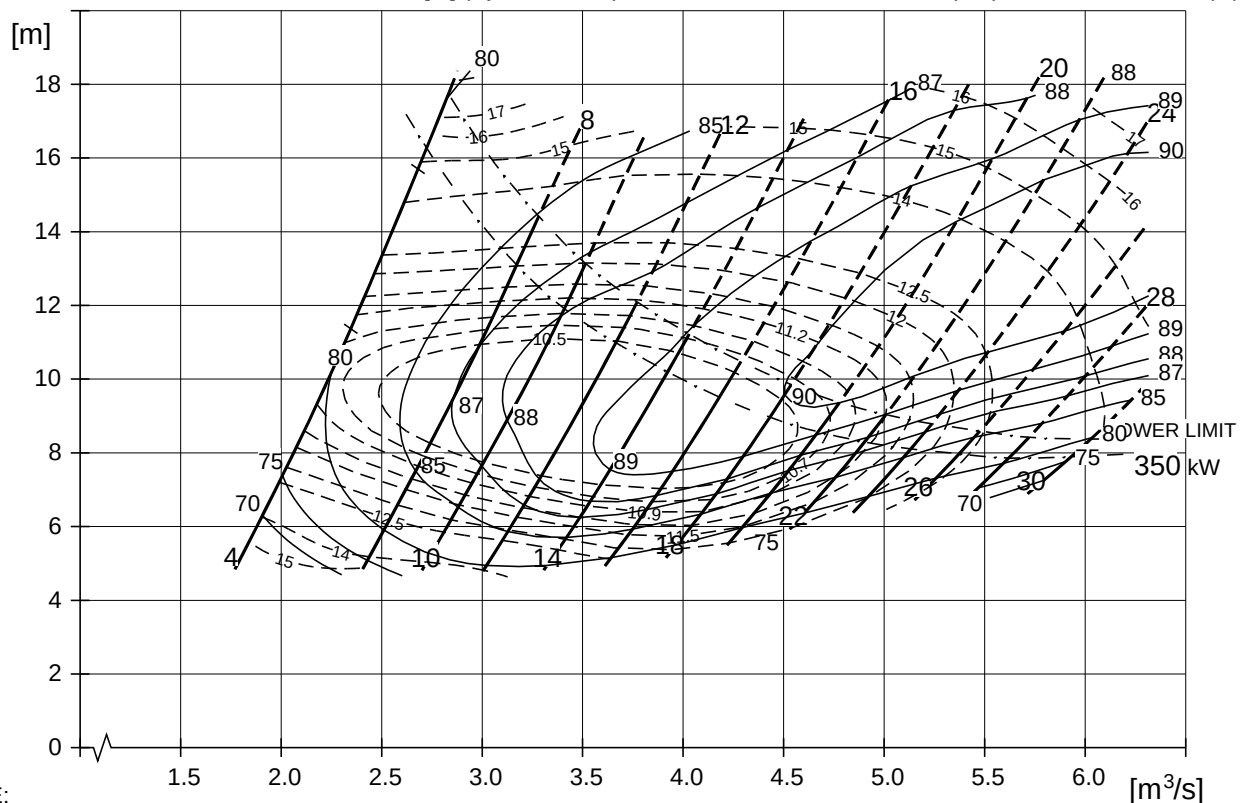
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

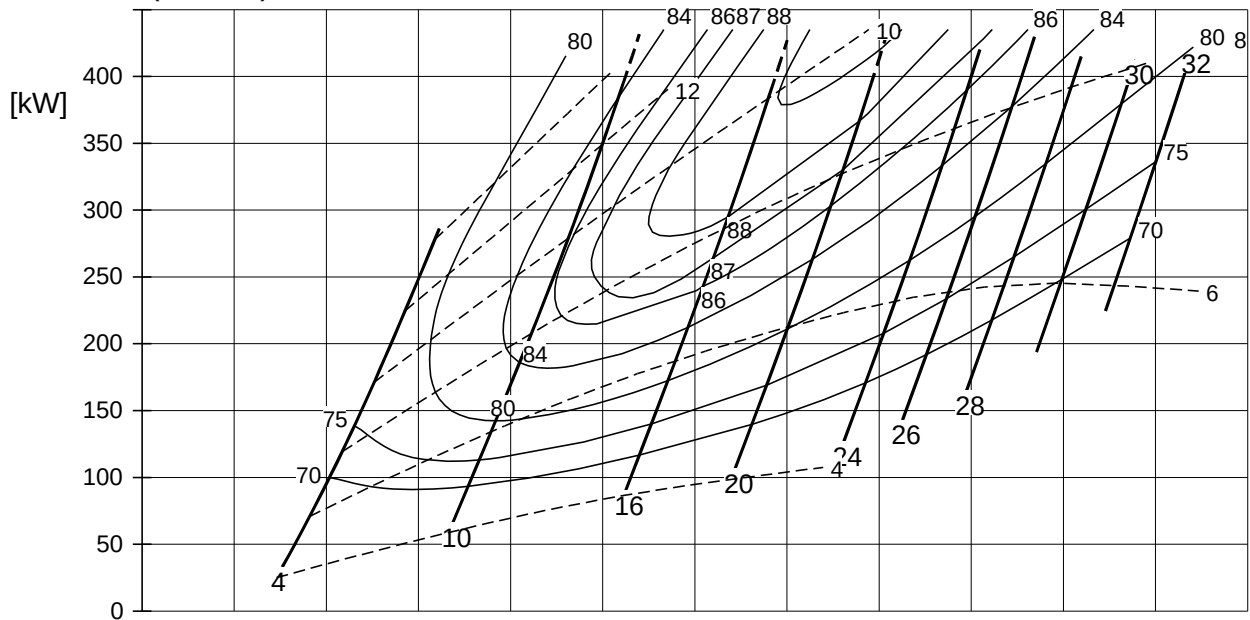
EL 7600

CURVE NO

53- 505 C4EDATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
505 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **32** degDRIVE UNIT
935
935GENERATOR
66-66-12AA
66-76-12AAPOLES
12
12GEN. POWER
350 kW
395

POWER (SHAFT)

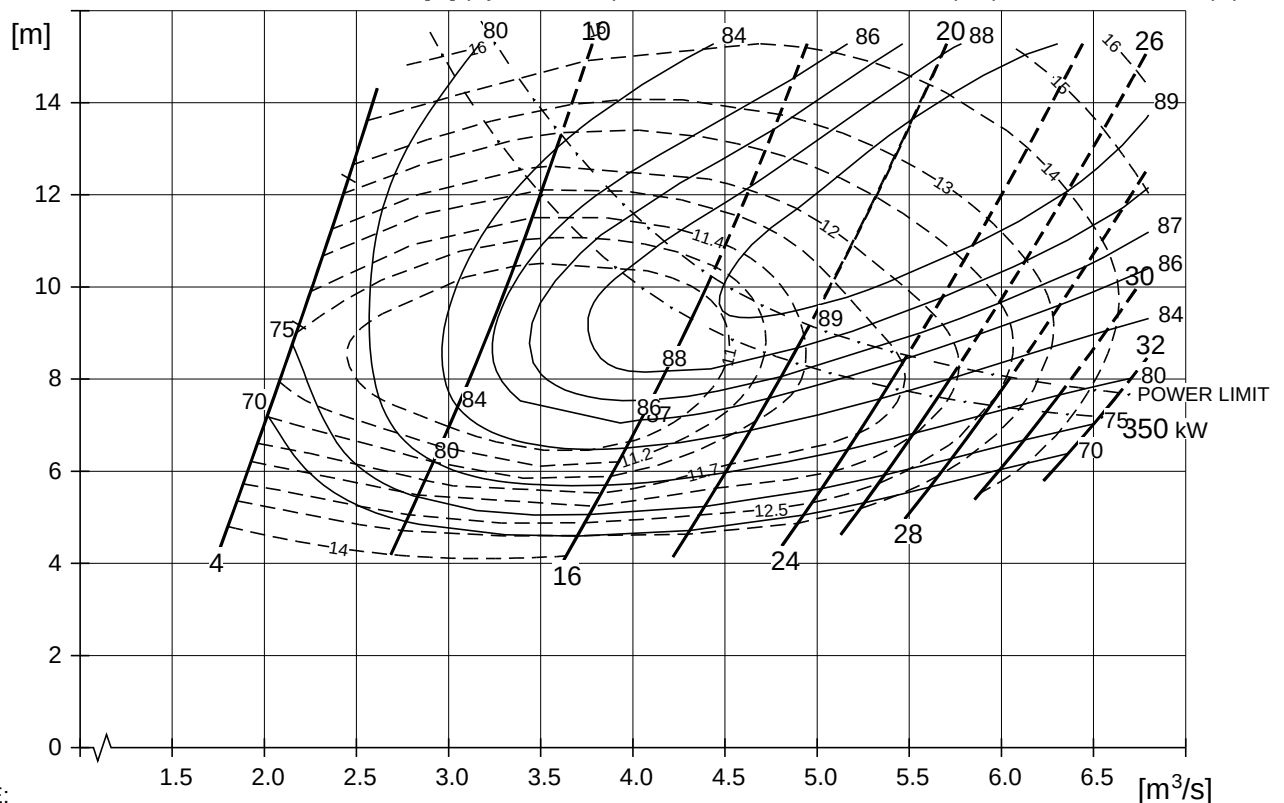
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

53- 226 C4E

DATE
2016-02-10

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
226 RPM

IMPELLER/HUB DIAMETER
850 / 400 mm

GUIDE VANE(S)
50 deg

NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT
705

GENERATOR
43-30-6BC

POLES
6

GEN. POWER
110 kW

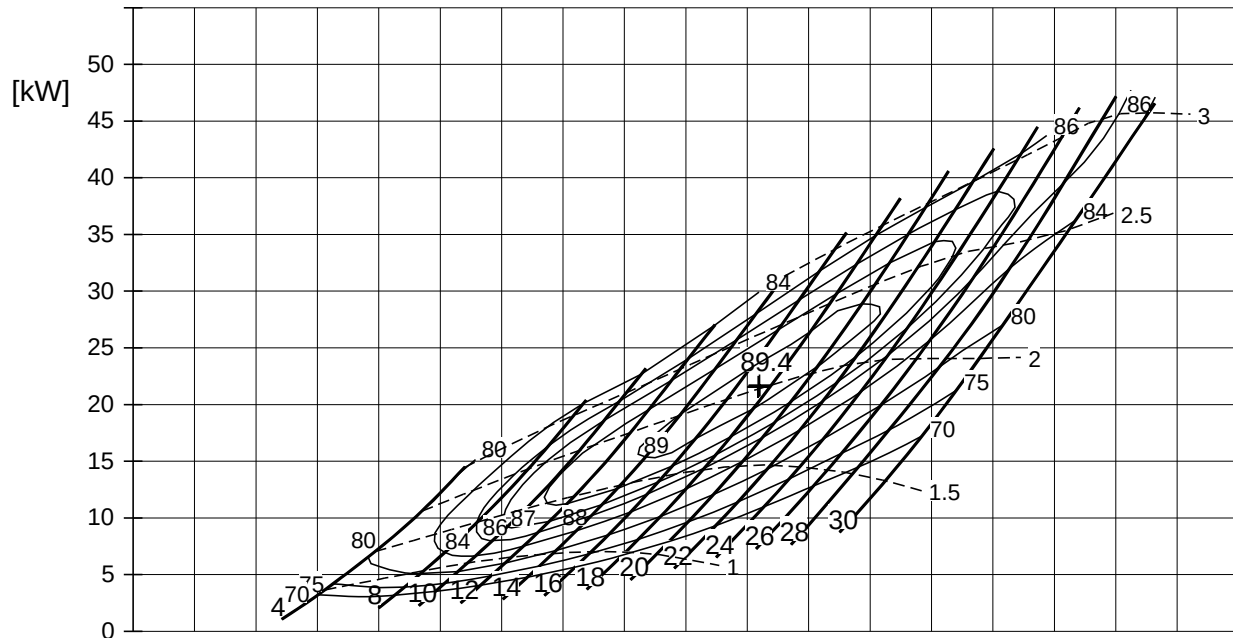
GEAR TYPE
350-12

GEAR RATIO
1: 4.500

GEAR EFFICIENCY (Load:1/1-3/4)
94.3% - 92.9%

POWER (SHAFT)

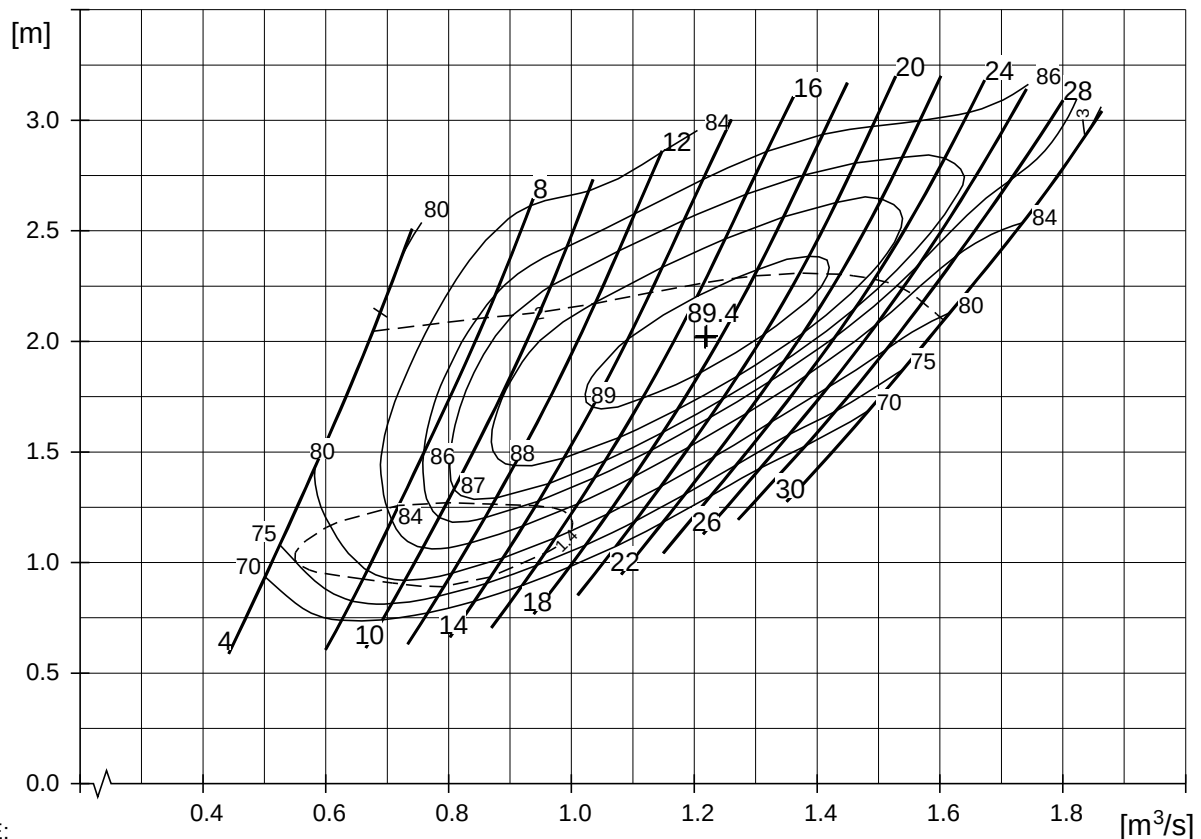
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

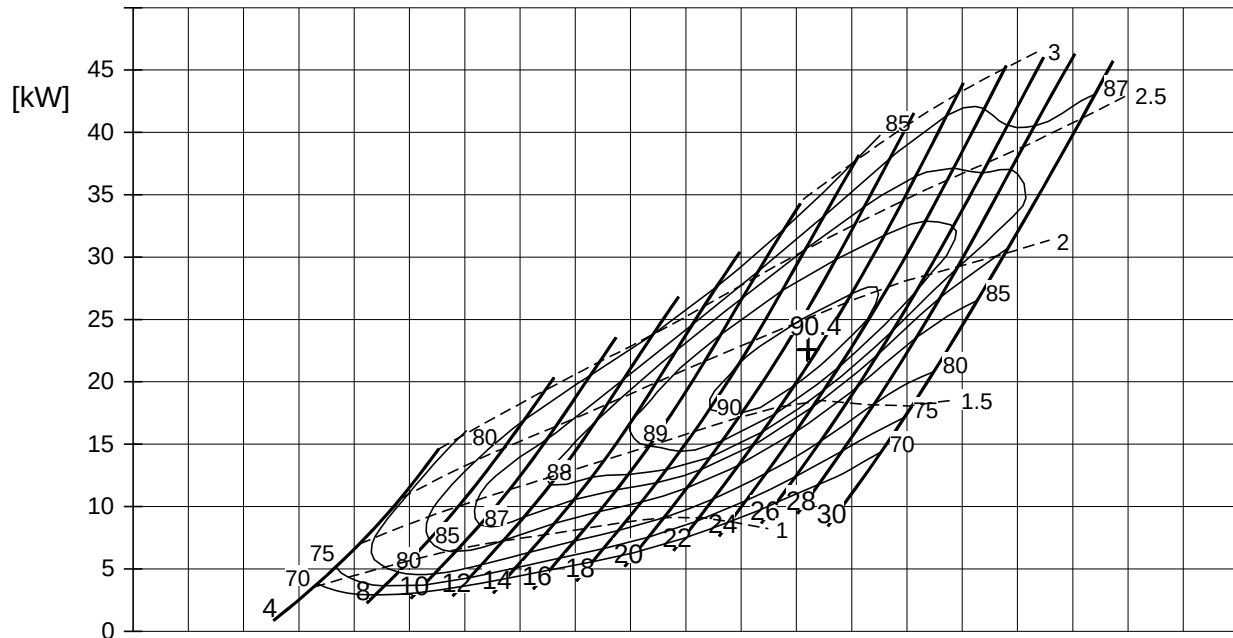
CURVE NO

53- 226C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
226 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
705GENERATOR
43-30-6BCPOLES
6GEN. POWER
110 kWGEAR TYPE
350-12GEAR RATIO
1: 4.500GEAR EFFICIENCY (Load:1/1-3/4)
94.3% - 92.9%

POWER (SHAFT)

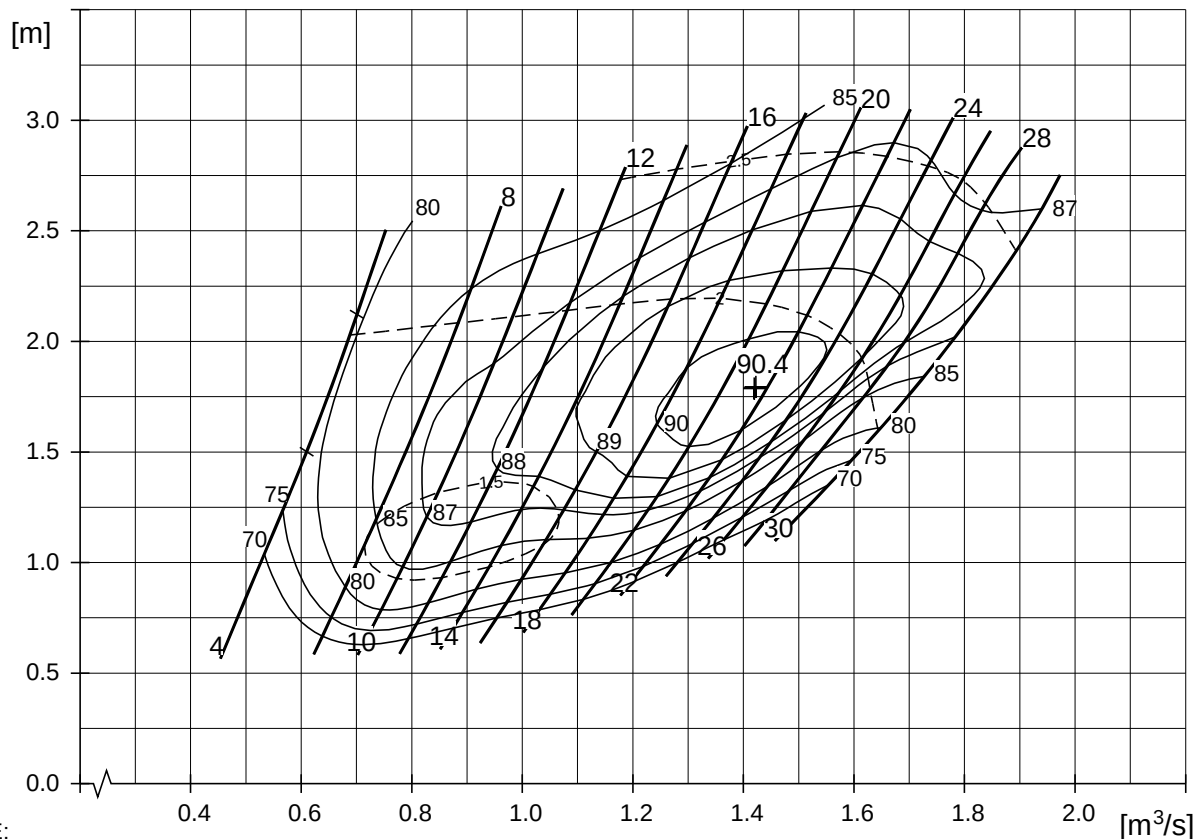
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

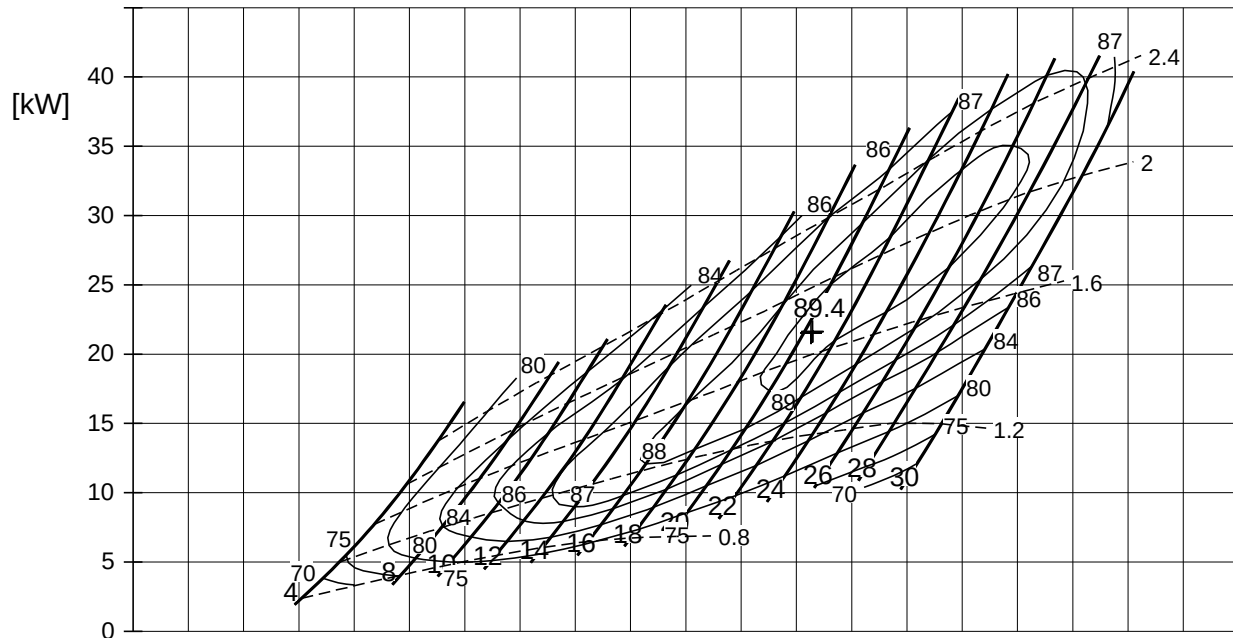
EL 7585

CURVE NO

53- 226 C4EDATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
226 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** degDRIVE UNIT
705GENERATOR
43-30-6BCPOLES
6GEN. POWER
110 kWGEAR TYPE
350-12GEAR RATIO
1: 4.500GEAR EFFICIENCY (Load:1/1-3/4)
94.3% - 92.9%

POWER (SHAFT)

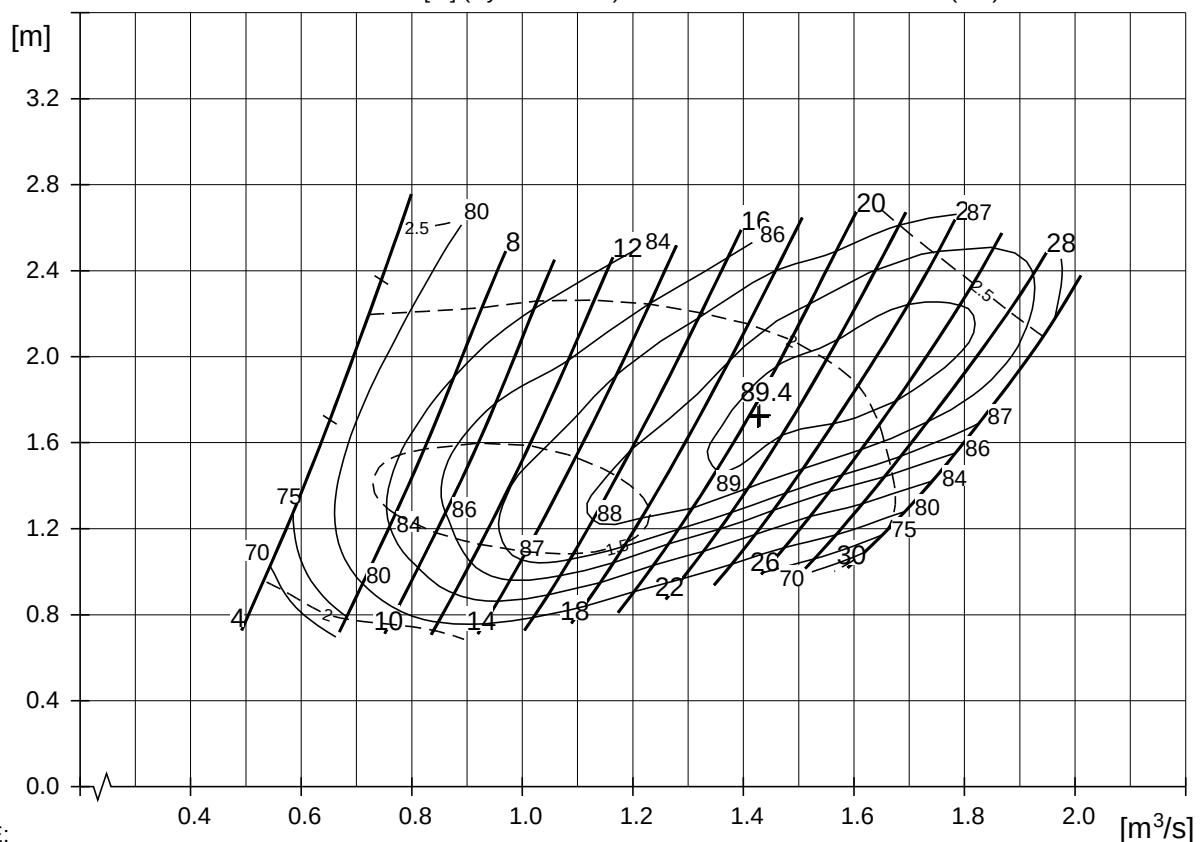
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

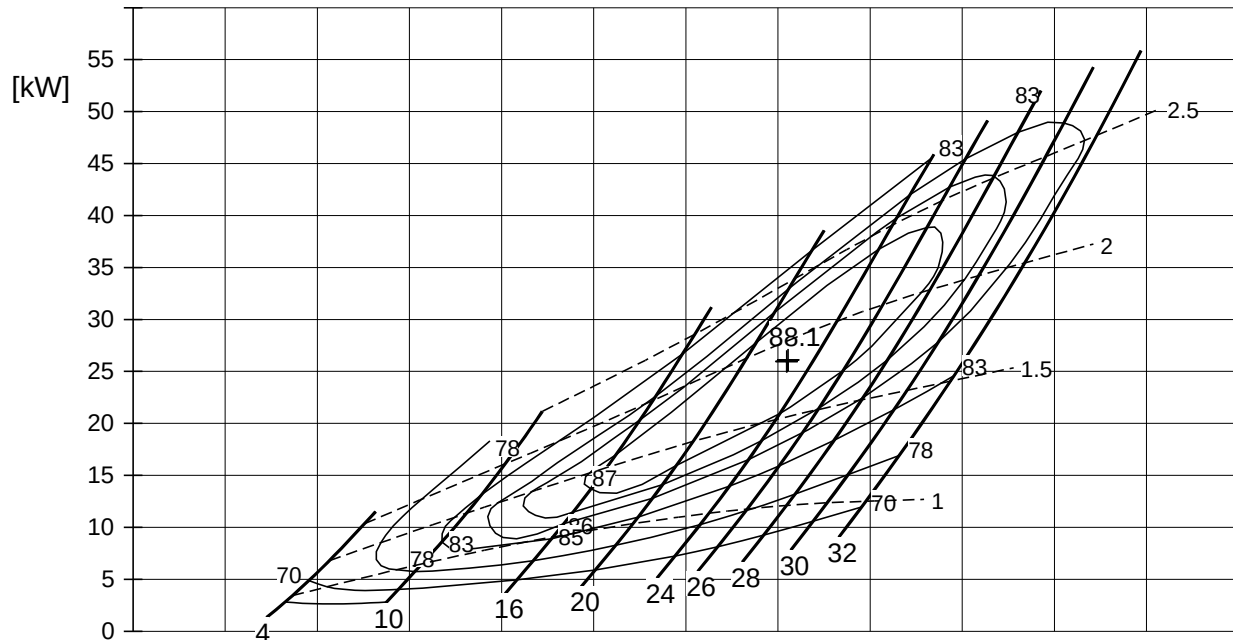
CURVE NO

53- 226C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
226 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 degDRIVE UNIT
705GENERATOR
43-30-6BCPOLES
6GEN. POWER
110 kWGEAR TYPE
350-12GEAR RATIO
1: 4.500GEAR EFFICIENCY (Load:1/1-3/4)
94.3% - 92.9%

POWER (SHAFT)

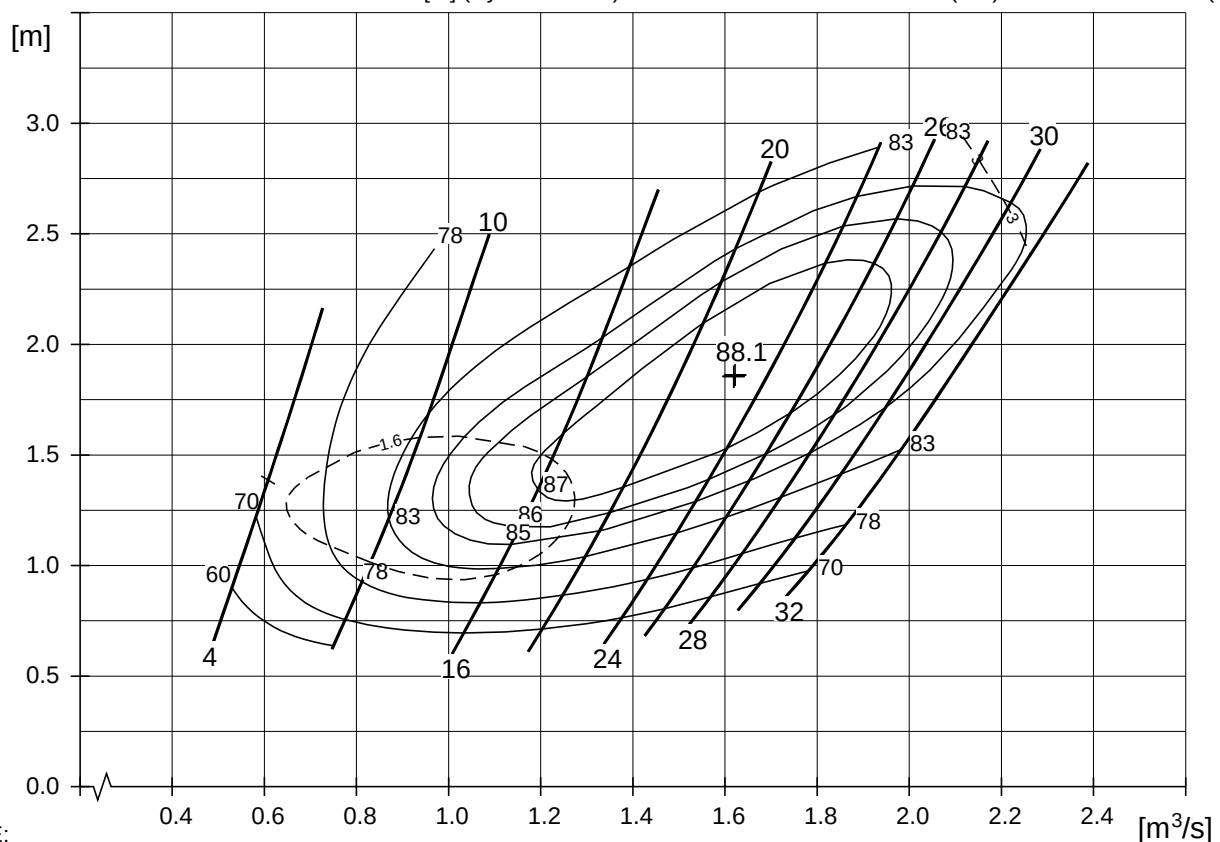
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

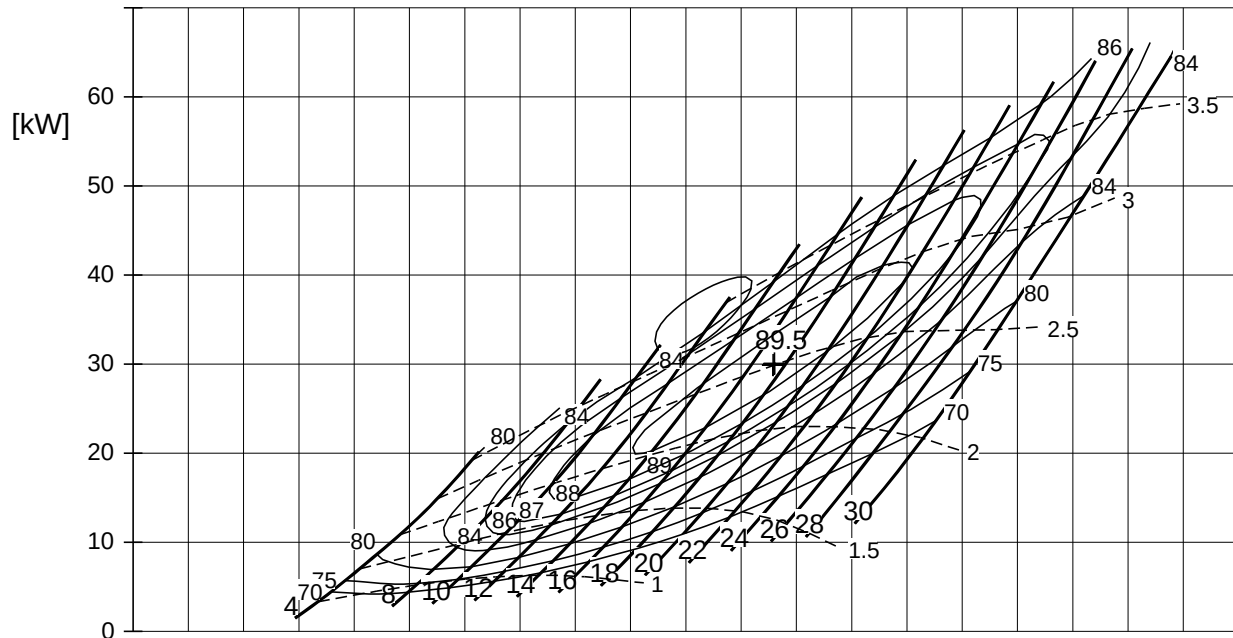
CURVE NO

53- 252 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
252 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
705GENERATOR
43-30-6BCPOLES
6GEN. POWER
110 kWGEAR TYPE
350-12GEAR RATIO
1: 4.034GEAR EFFICIENCY (Load:1/1-3/4)
93.9% - 92.5%

POWER (SHAFT)

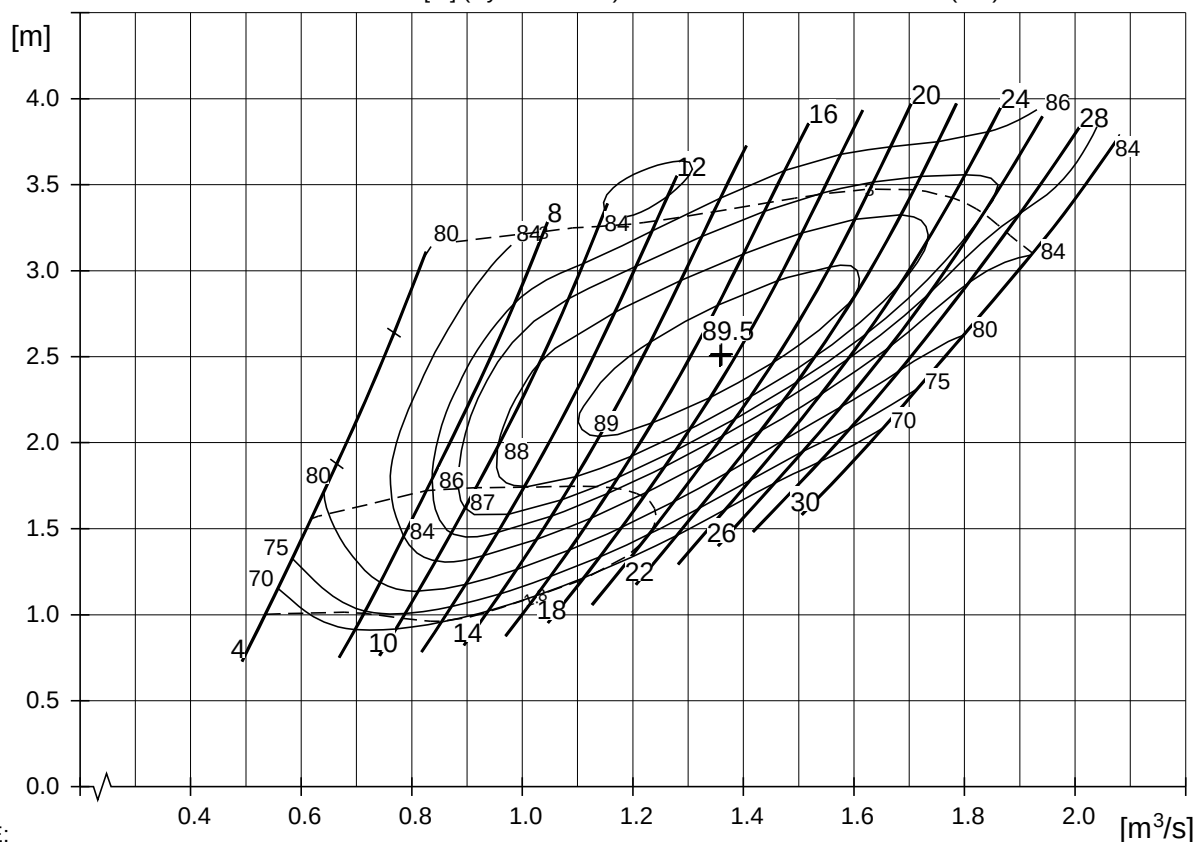
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

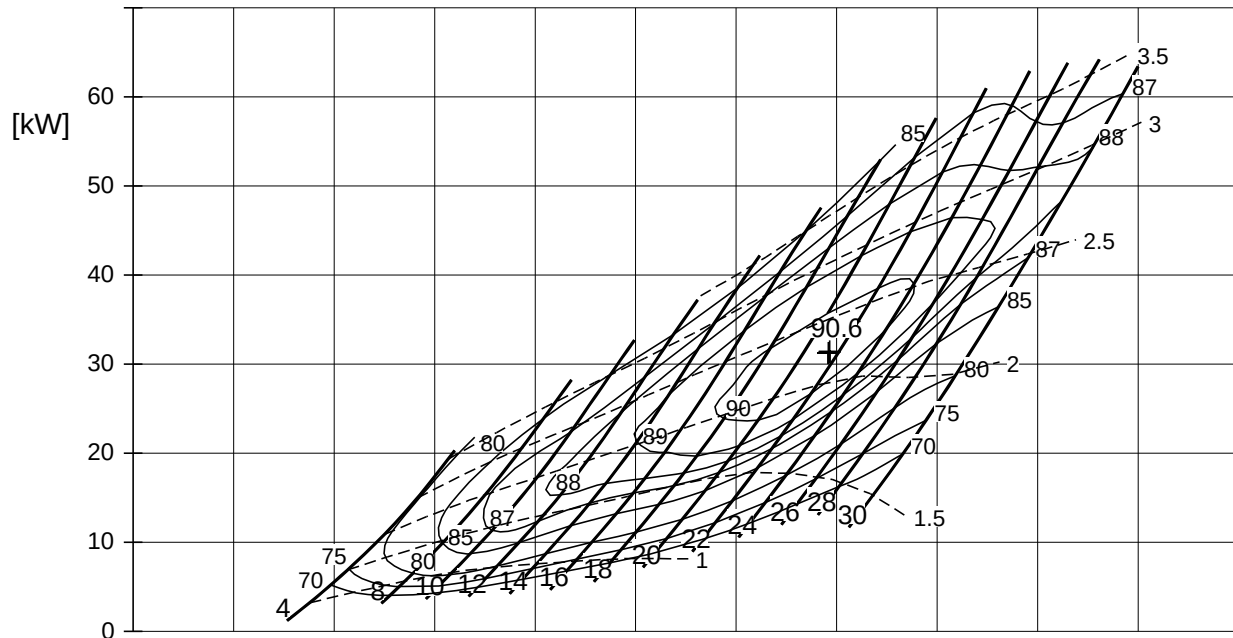
CURVE NO

53- 252 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
252 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
705GENERATOR
43-30-6BCPOLES
6GEN. POWER
110 kWGEAR TYPE
350-12GEAR RATIO
1: 4.034GEAR EFFICIENCY (Load:1/1-3/4)
93.9% - 92.5%

POWER (SHAFT)

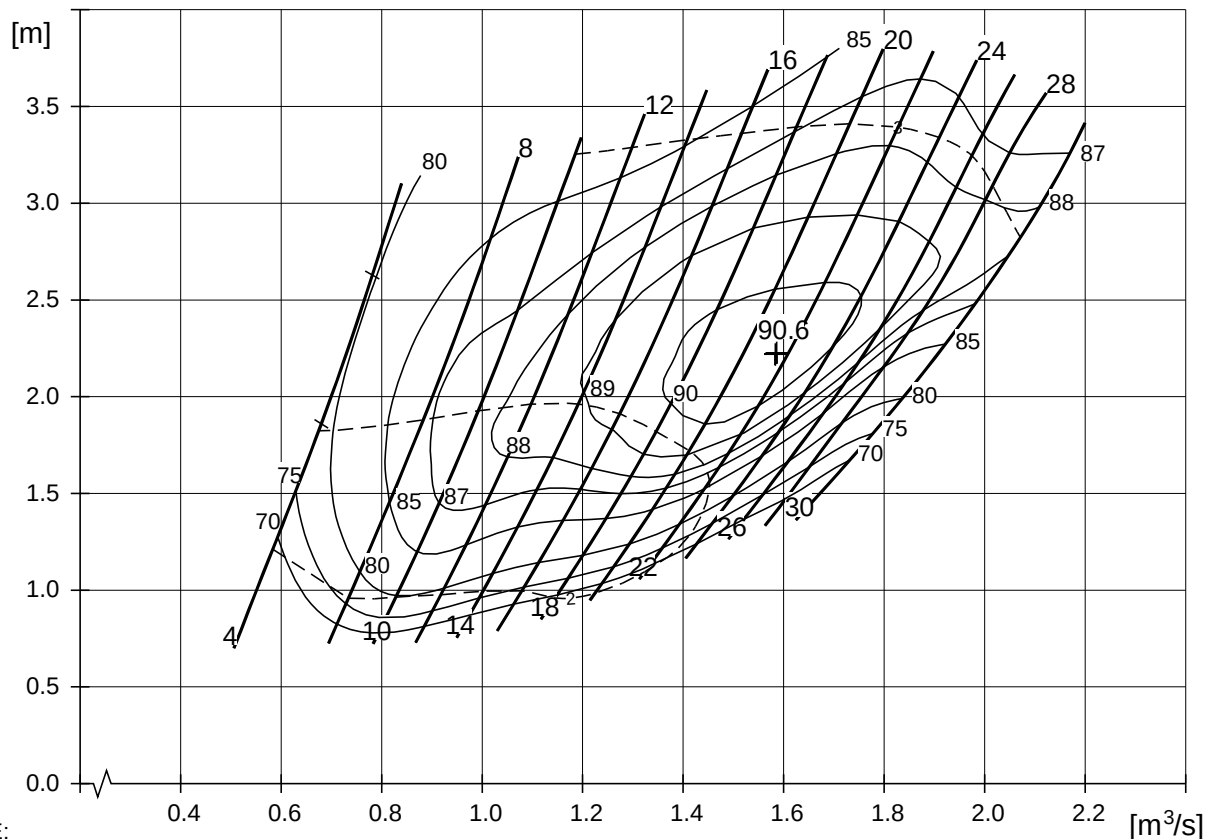
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

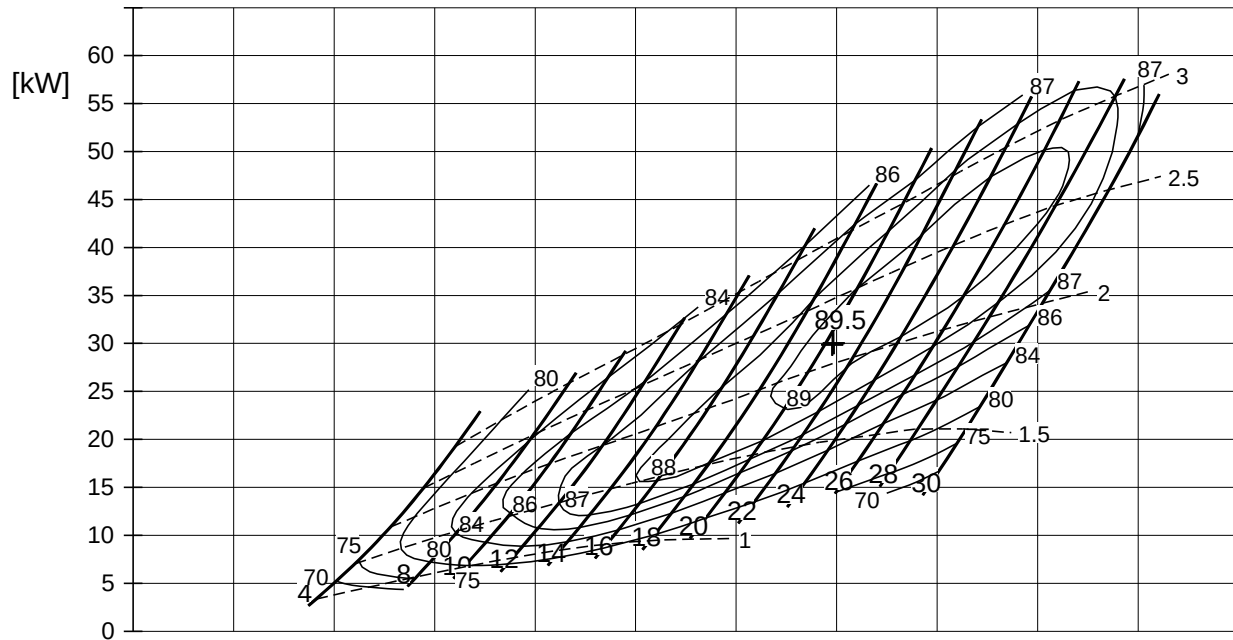
CURVE NO

53- 252 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
252 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
705GENERATOR
43-30-6BCPOLES
6GEN. POWER
110 kWGEAR TYPE
350-12GEAR RATIO
1: 4.034GEAR EFFICIENCY (Load:1/1-3/4)
93.9% - 92.5%

POWER (SHAFT)

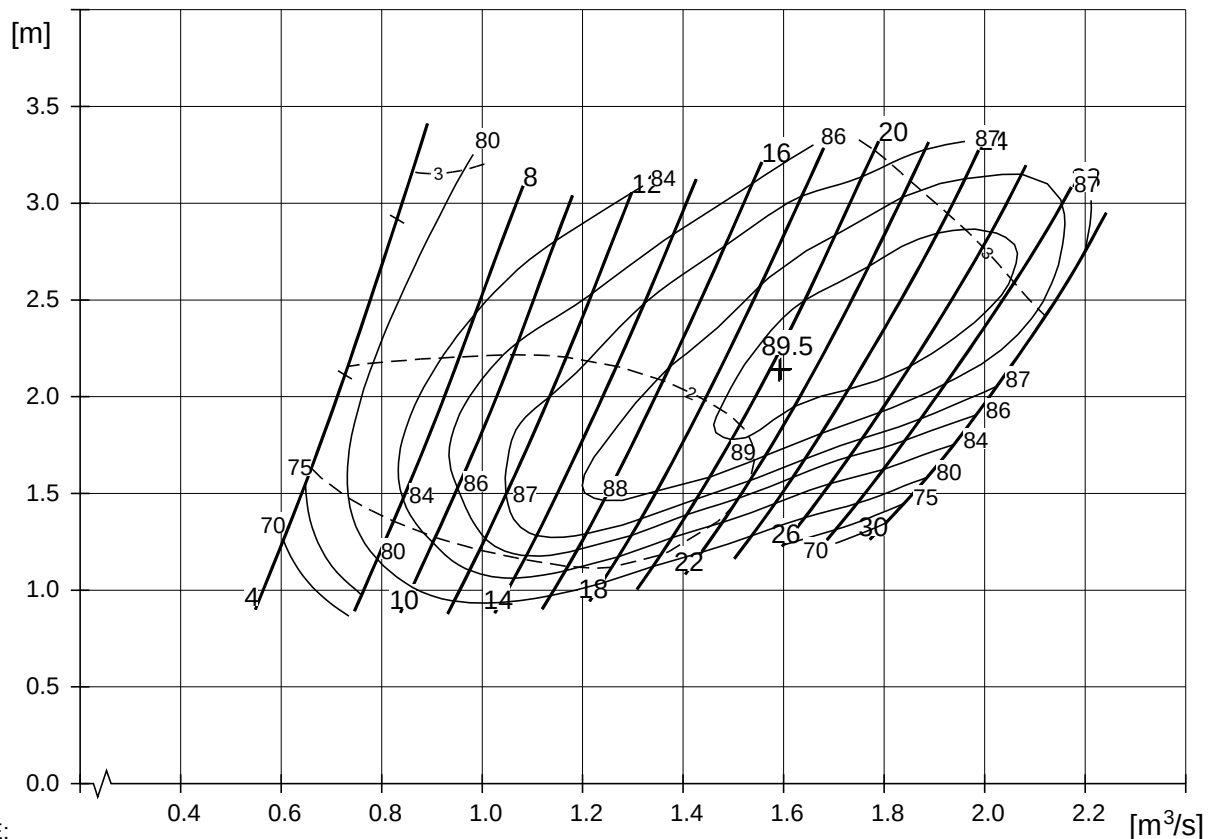
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

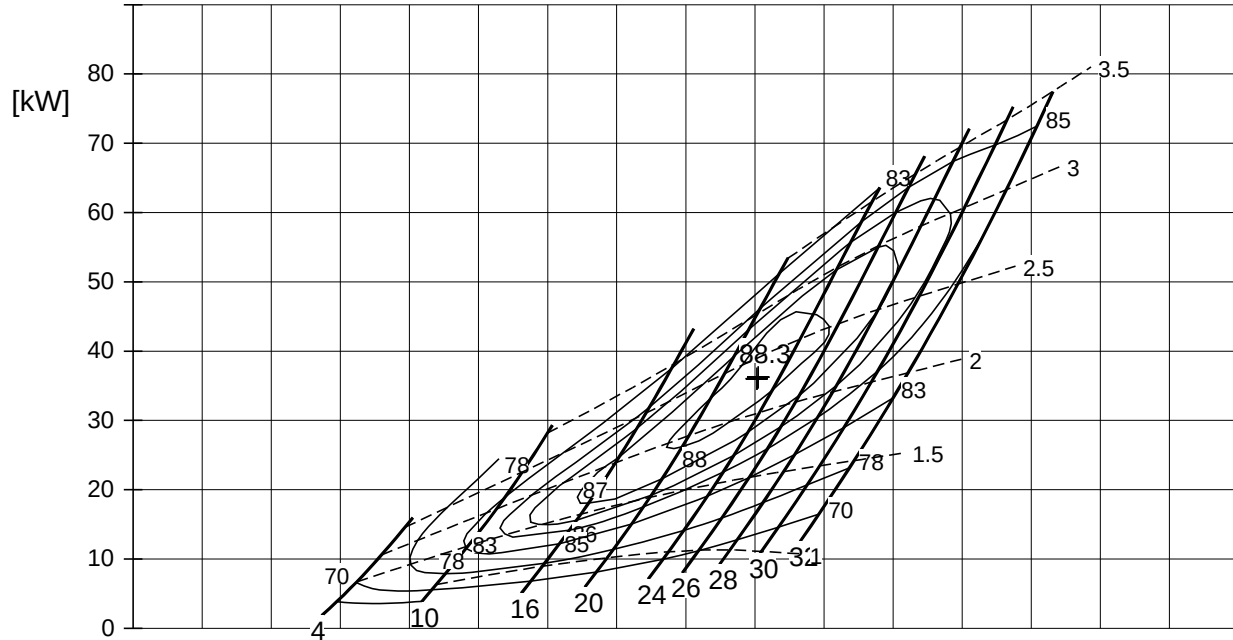
CURVE NO

53- 252 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
252 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 degDRIVE UNIT
705GENERATOR
43-30-6BCPOLES
6GEN. POWER
110 kWGEAR TYPE
350-12GEAR RATIO
1: 4.034GEAR EFFICIENCY (Load:1/1-3/4)
93.9% - 92.5%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)





TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

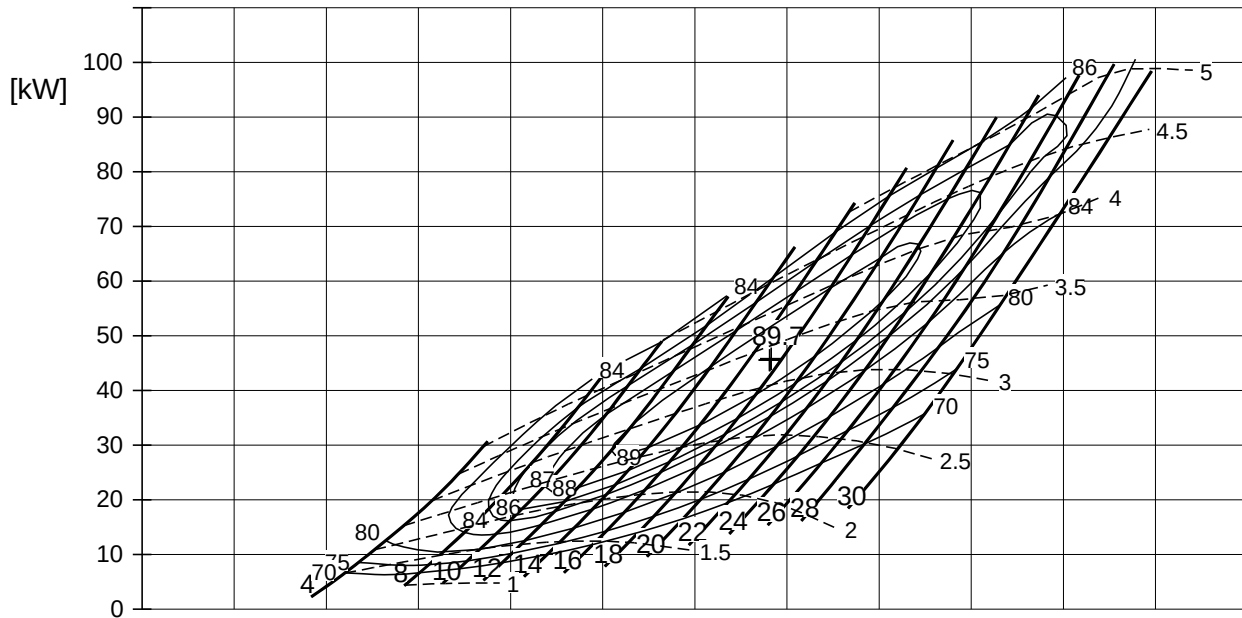
CURVE NO

53- 290 C4E

DATE 2016-02-10	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 290 RPM			
IMPELLER/HUB DIAMETER 850 / 400 mm	GUIDE VANE(S) 50 deg		NO. OF BLADES 4	AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 30 deg		
DRIVE UNIT 705	GENERATOR 43-30-6BC	POLES 6	GEN. POWER 110 kW	GEAR TYPE 350-13	GEAR RATIO 1: 3.500	GEAR EFFICIENCY (Load:1/1-3/4) 95.3% - 94.1%
735	43-44-6BC	6	160	350-13	1: 3.500	96.2% - 95.4%

POWER (SHAFT)

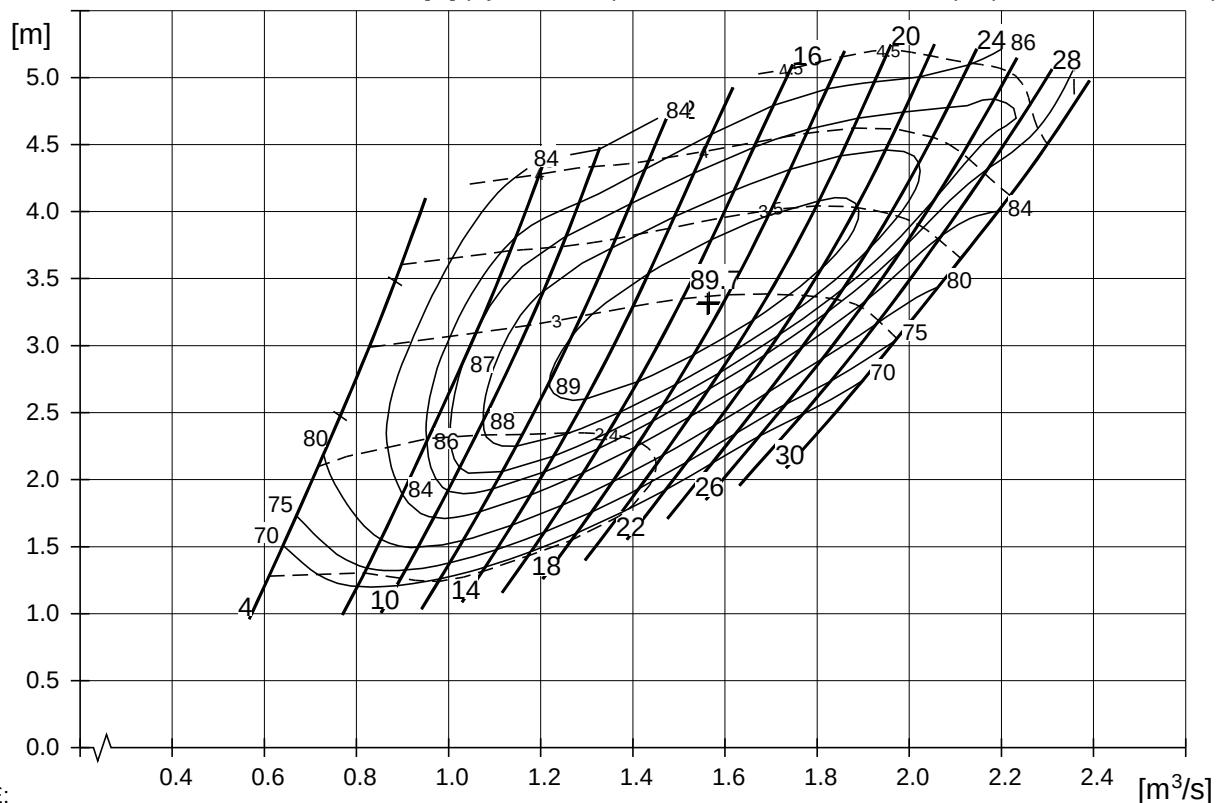
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

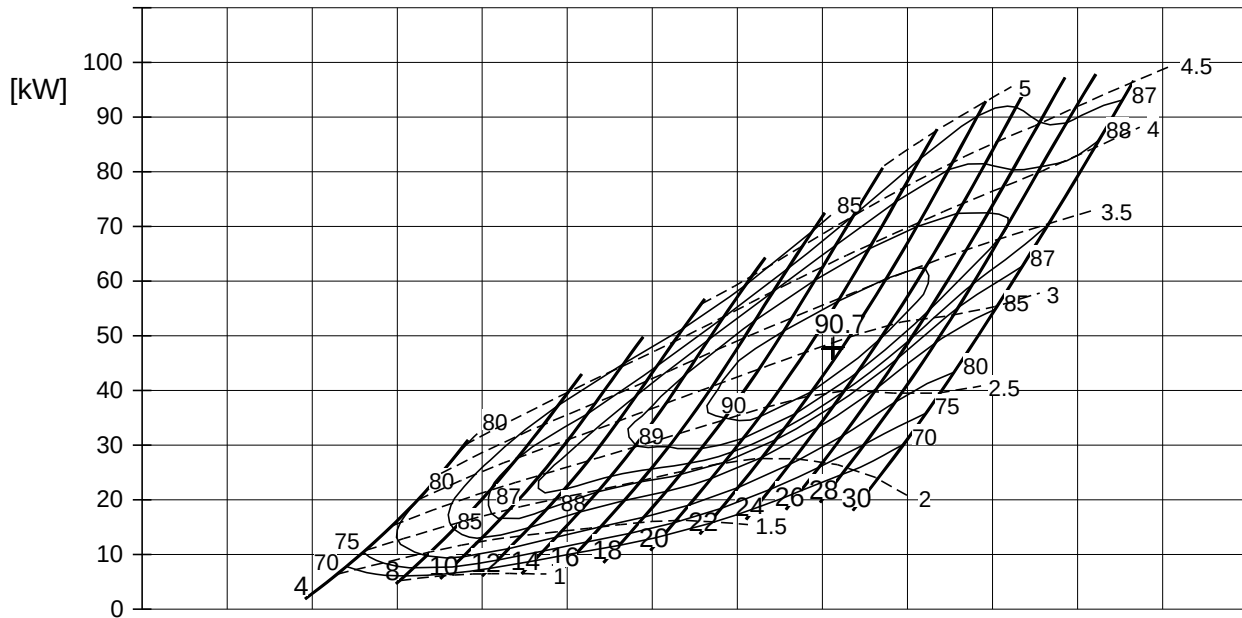
CURVE NO

53- 290 C4E

DATE 2016-02-10	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 290 RPM			
IMPELLER/HUB DIAMETER 850 / 400 mm	GUIDE VANE(S) 57 deg		NO. OF BLADES 4	AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 30 deg		
DRIVE UNIT 705	GENERATOR 43-30-6BC	POLES 6	GEN. POWER 110 kW	GEAR TYPE 350-13	GEAR RATIO 1: 3.500	GEAR EFFICIENCY (Load:1/1-3/4) 95.3% - 94.1%
735	43-44-6BC	6	160	350-13	1: 3.500	96.2% - 95.4%

POWER (SHAFT)

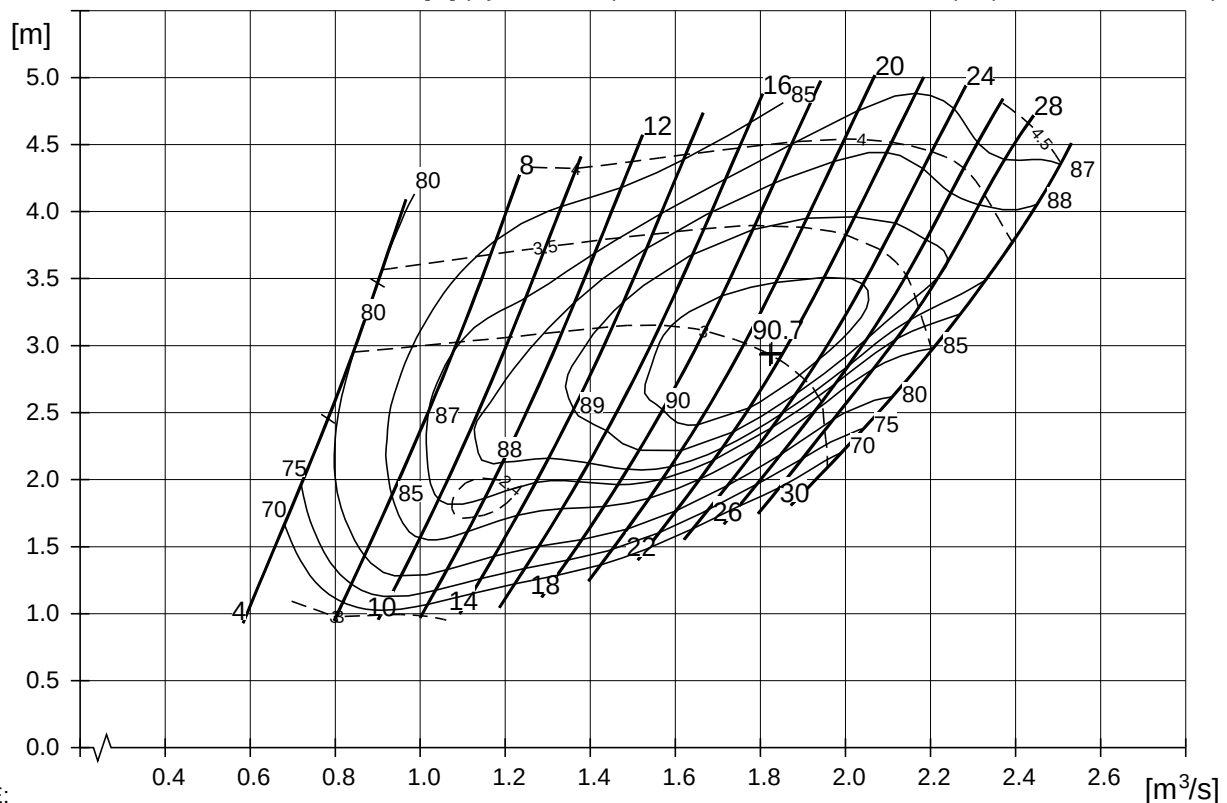
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

53- 290 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
290 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
705GENERATOR
43-30-6BCPOLES
6GEN. POWER
110 kWGEAR TYPE
350-13GEAR RATIO
1: 3.500GEAR EFFICIENCY (Load:1/1-3/4)
95.3% - 94.1%

735

43-44-6BC

6

160

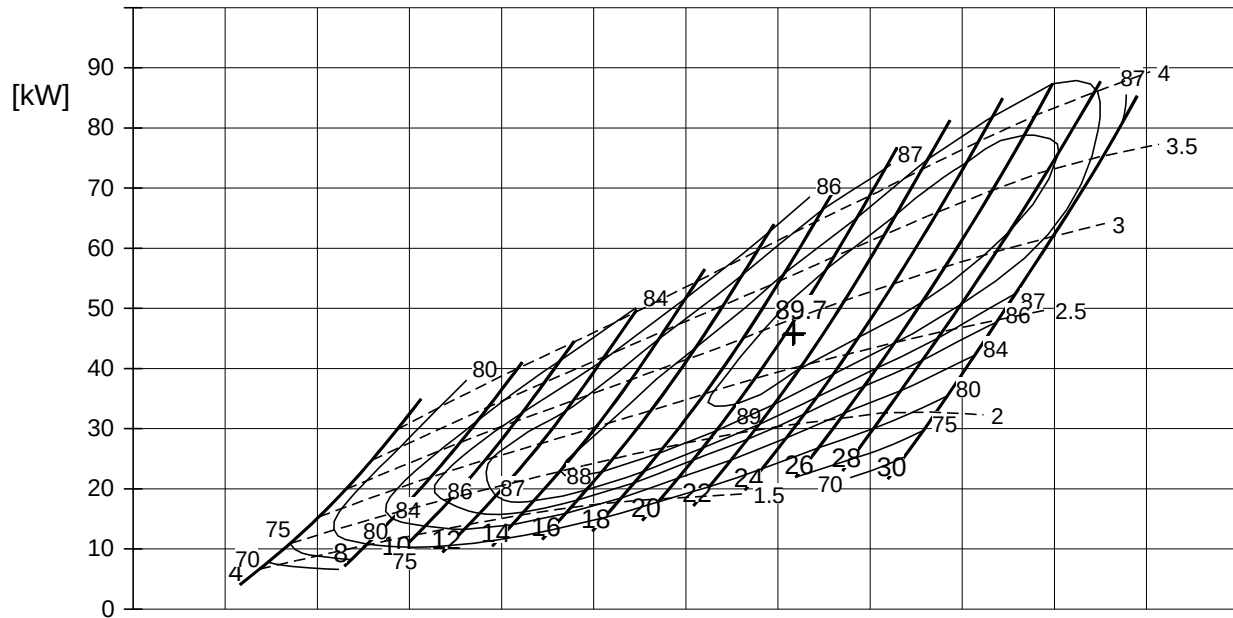
350-13

1: 3.500

96.2% - 95.4%

POWER (SHAFT)

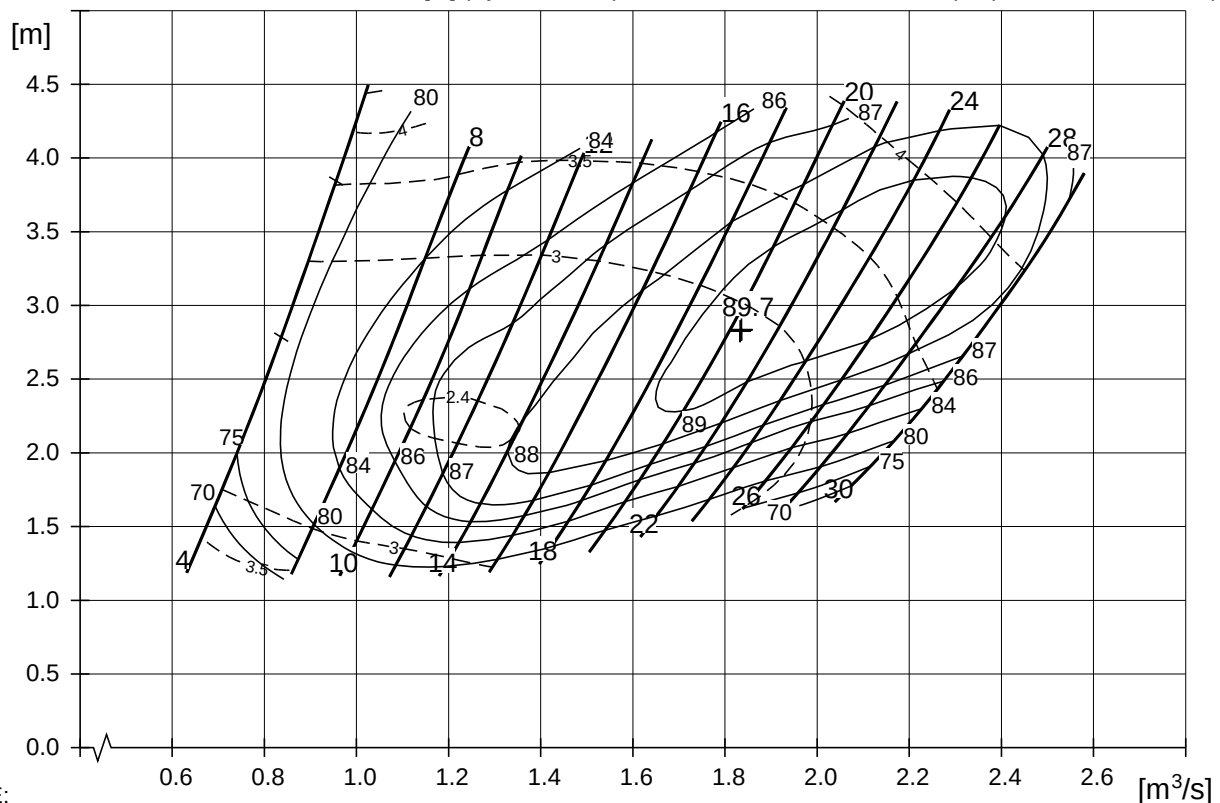
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

53- 290 C4E

DATE
2016-02-10

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
290 RPM

IMPELLER/HUB DIAMETER
850 / 400 mm

GUIDE VANE(S)
70 deg

NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT
705
735

GENERATOR
43-30-6BC
43-44-6BC

POLES
6
6

GEN. POWER
110 kW
160

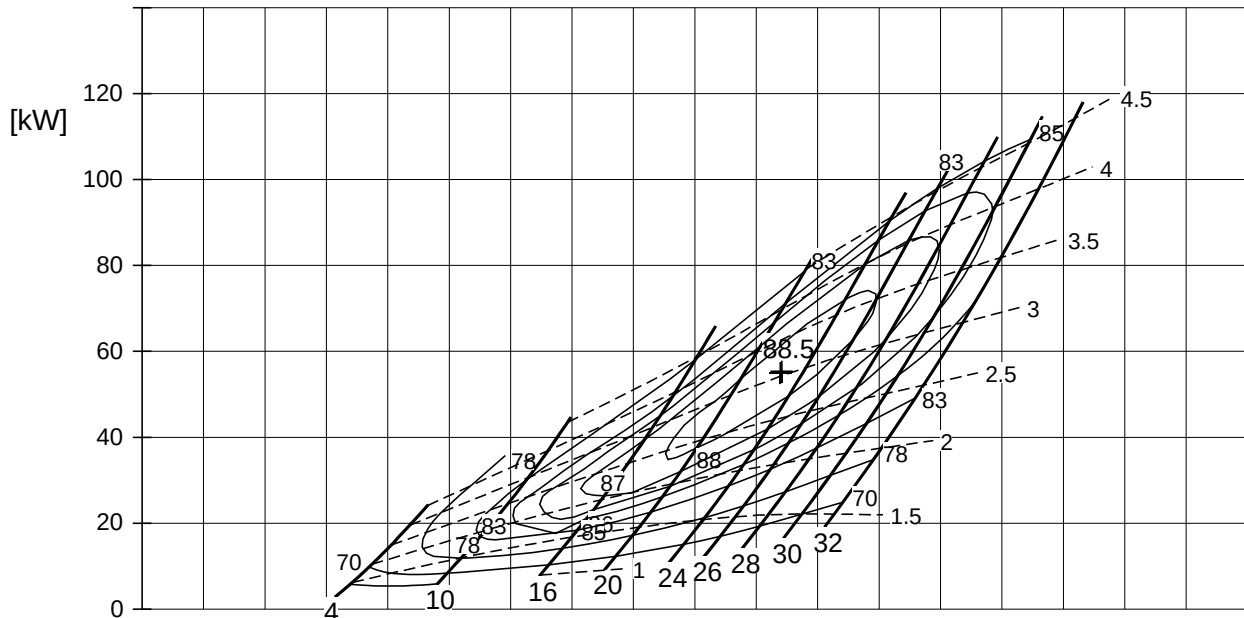
GEAR TYPE
350-13
350-13

GEAR RATIO
1: 3.500
1: 3.500

GEAR EFFICIENCY (Load:1/1-3/4)
95.3% - 94.1%
96.2% - 95.4%

POWER (SHAFT)

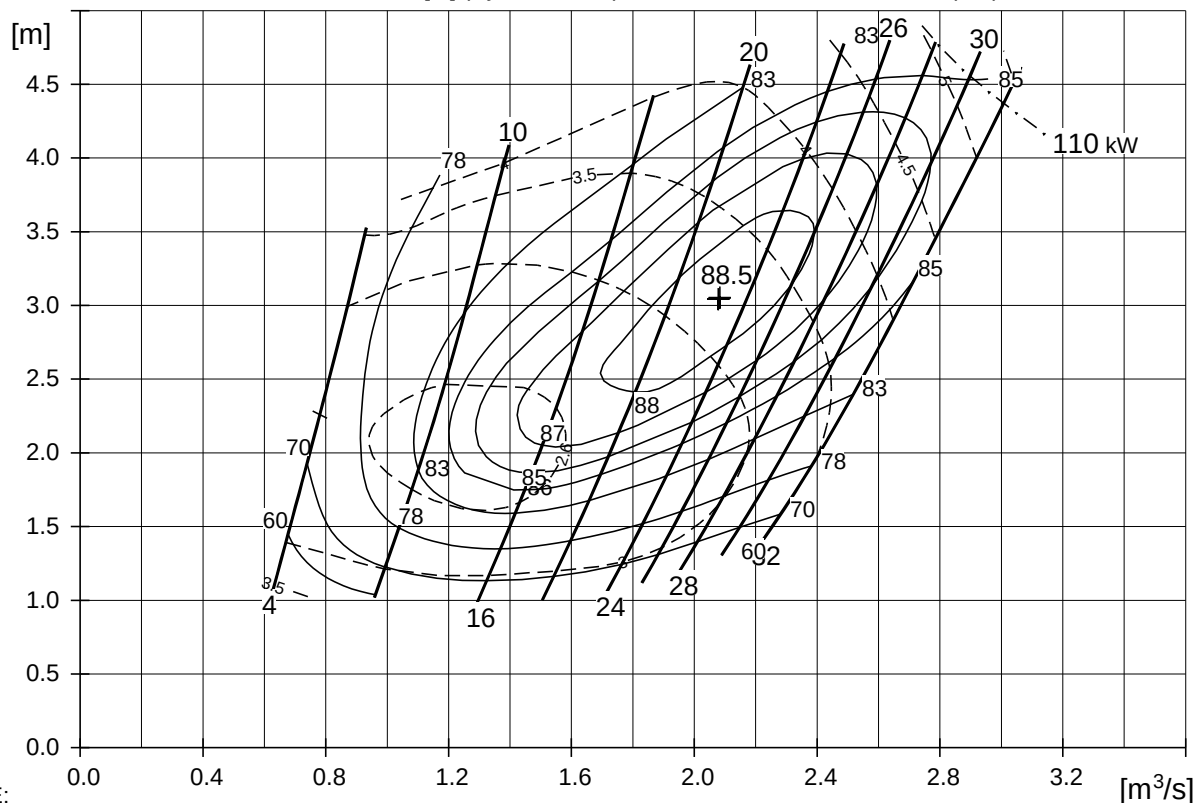
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

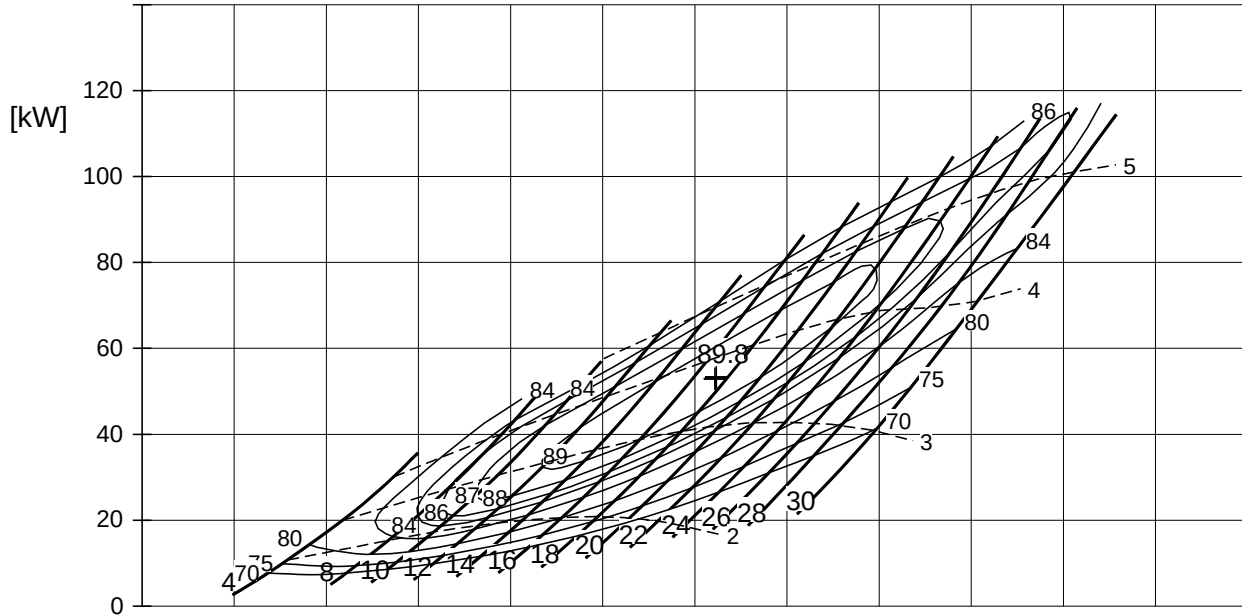
CURVE NO

53- 305 C4E

DATE 2016-02-10	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 305 RPM			
IMPELLER/HUB DIAMETER 850 / 400 mm	GUIDE VANE(S) 50 deg		NO. OF BLADES 4	AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 30 deg		
DRIVE UNIT 705	GENERATOR 43-30-6BC	POLES 6	GEN. POWER 110 kW	GEAR TYPE 350-13	GEAR RATIO 1: 3.333	GEAR EFFICIENCY (Load:1/1-3/4) 95.1% - 94.0%
735	43-44-6BC	6	160	350-13	1: 3.333	96.1% - 95.3%

POWER (SHAFT)

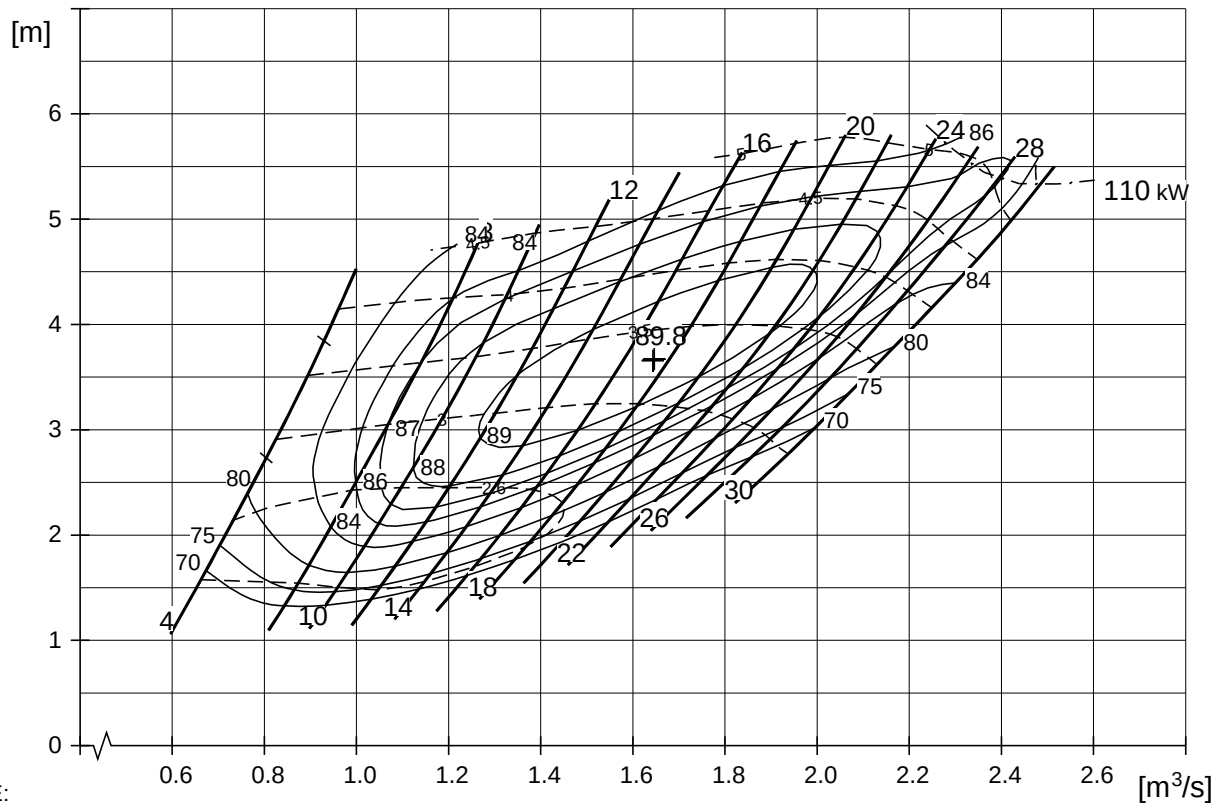
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

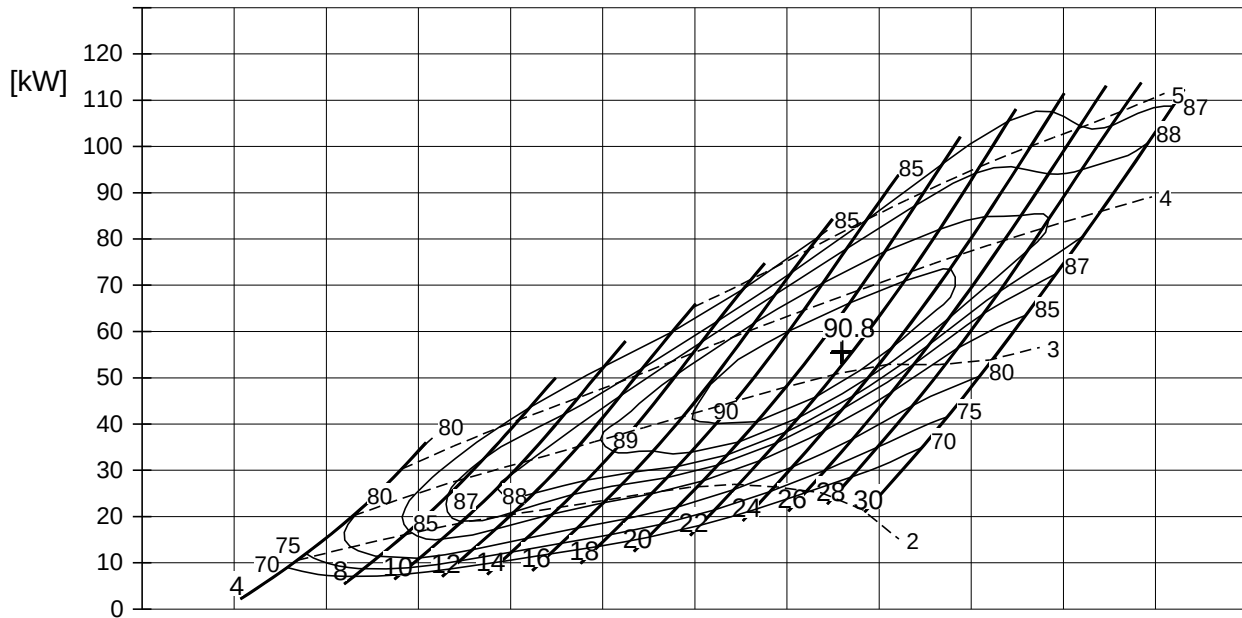
CURVE NO

53- 305 C4E

DATE 2016-02-10	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 305 RPM		CURVE NO 53- 305 C4E
IMPELLER/HUB DIAMETER 850 / 400 mm	GUIDE VANE(S) 57 deg		NO. OF BLADES 4		AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 30 deg
DRIVE UNIT 705	GENERATOR 43-30-6BC	POLES 6	GEN. POWER 110 kW	GEAR TYPE 350-13	GEAR RATIO 1: 3.333
735	43-44-6BC	6	160	350-13	1: 3.333
					GEAR EFFICIENCY (Load:1/1-3/4) 95.1% - 94.0%
					96.1% - 95.3%

POWER (SHAFT)

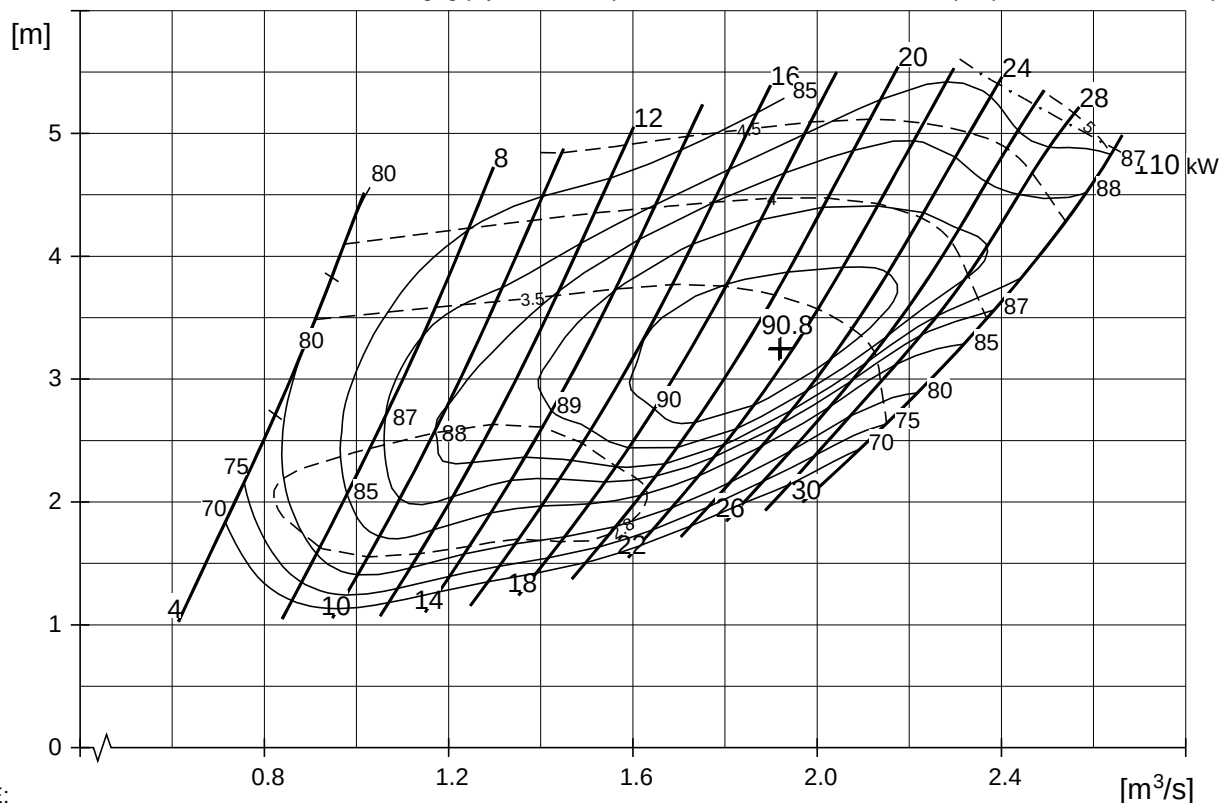
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

53- 305 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
305 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
705GENERATOR
43-30-6BCPOLES
6GEN. POWER
110 kWGEAR TYPE
350-13GEAR RATIO
1: 3.333GEAR EFFICIENCY (Load:1/1-3/4)
95.1% - 94.0%

735

43-44-6BC

6

160

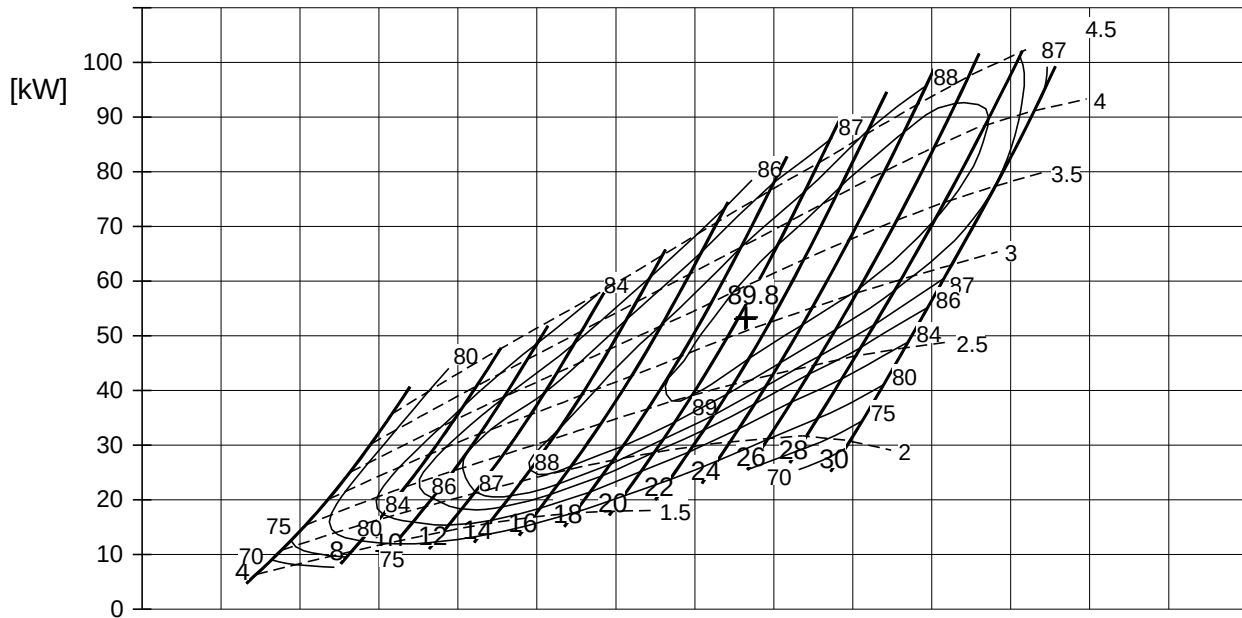
350-13

1: 3.333

96.1% - 95.3%

POWER (SHAFT)

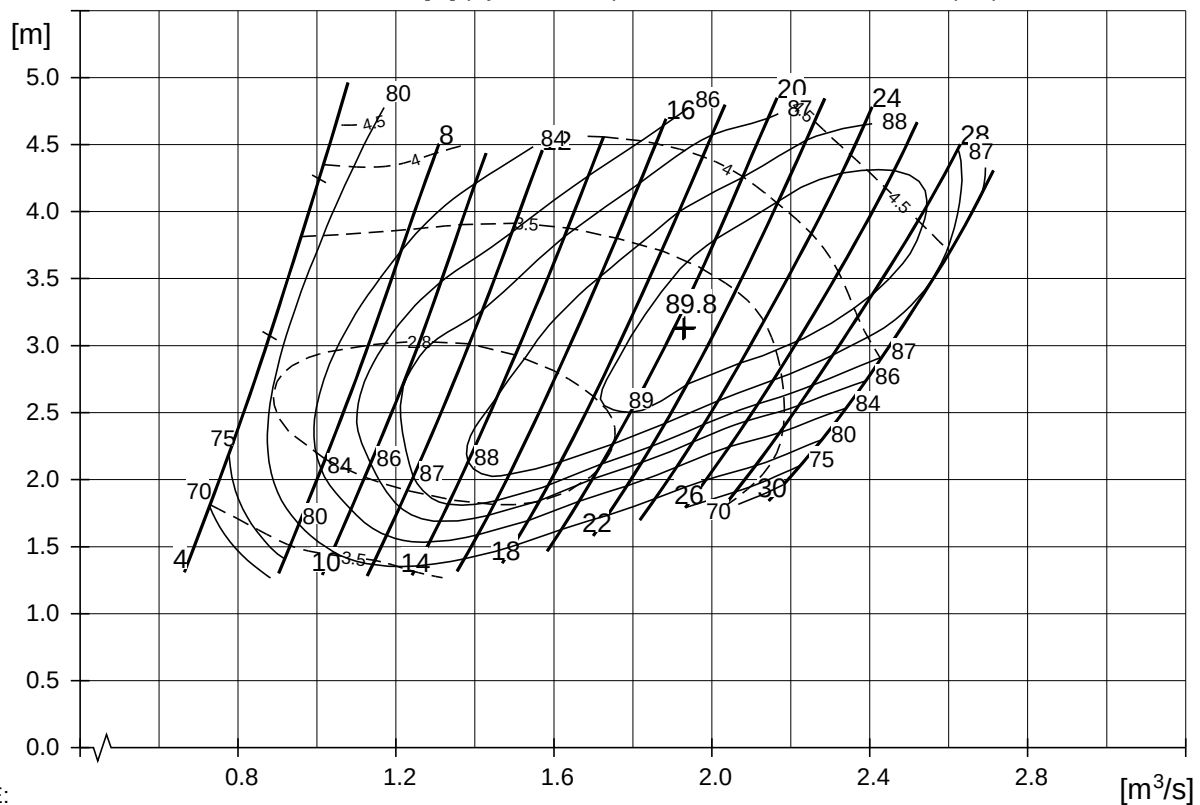
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

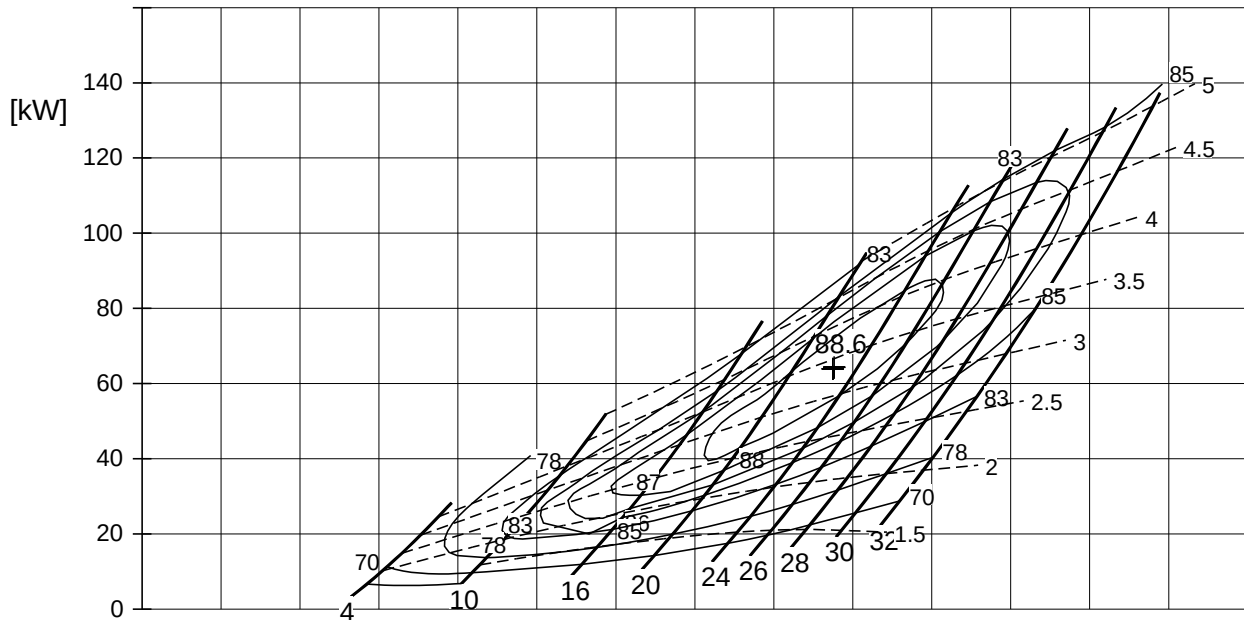
CURVE NO

53- 305 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
305 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 degDRIVE UNIT
705
735GENERATOR
43-30-6BC
43-44-6BCPOLES
6
6GEN. POWER
110 kW
160GEAR TYPE
350-13
350-13GEAR RATIO
1: 3.333
1: 3.333GEAR EFFICIENCY (Load:1/1-3/4)
95.1% - 94.0%
96.1% - 95.3%

POWER (SHAFT)

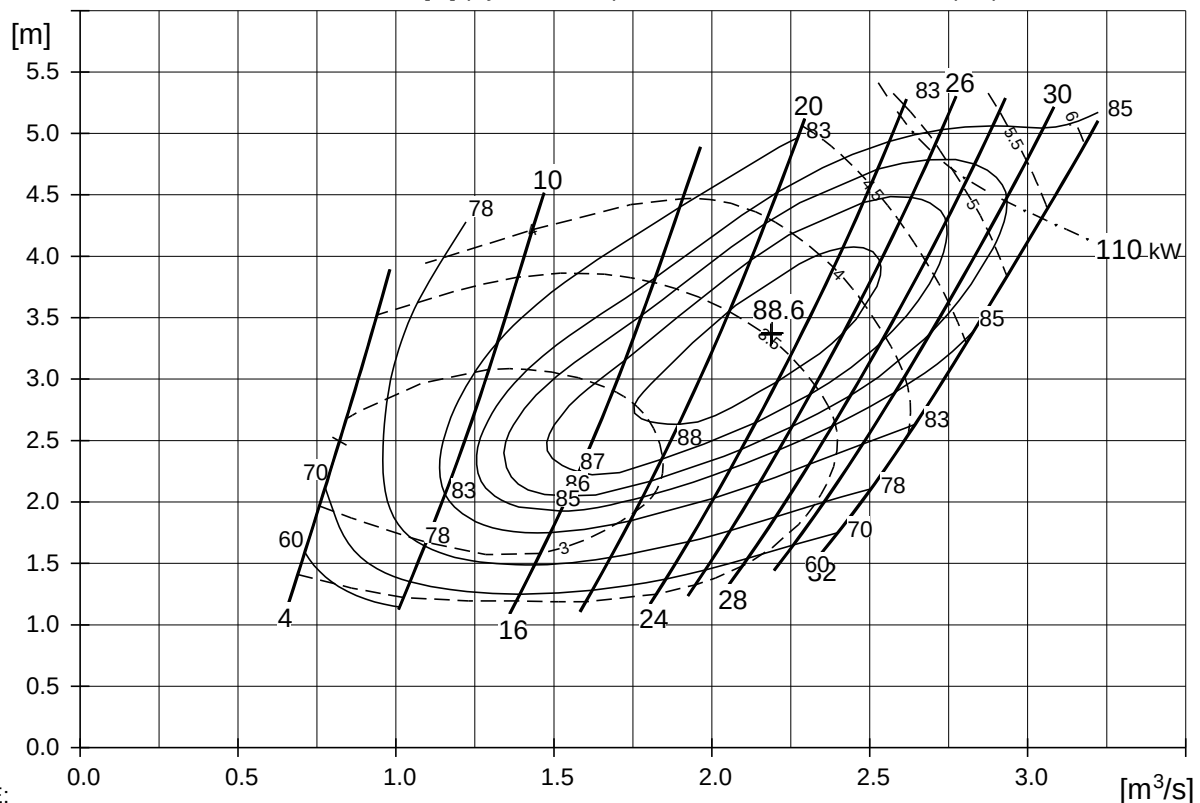
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

53- 338 C4E

DATE
2016-02-10

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
338 RPM

IMPELLER/HUB DIAMETER
850 / 400 mm

GUIDE VANE(S)
50 deg

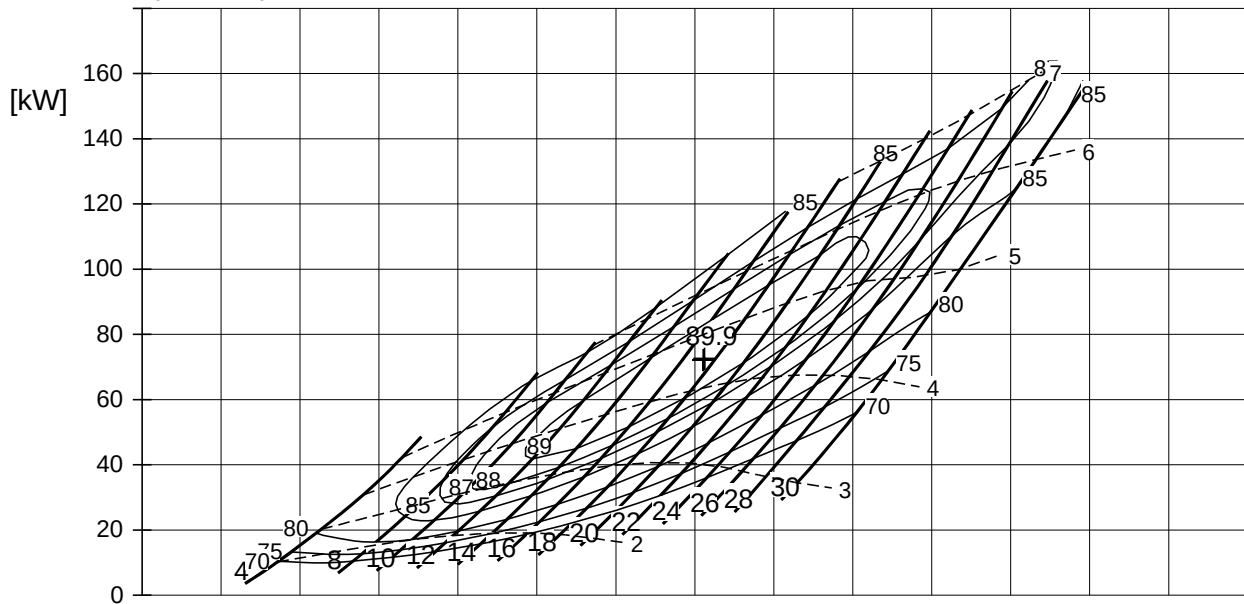
NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-13	1: 3.000	94.9% - 93.6%
735	43-44-6BC	6	160	350-13	1: 3.000	95.9% - 95.0%
765	43-56-6BC	6	200	350-13	1: 3.000	96.5% - 95.7%

POWER (SHAFT)

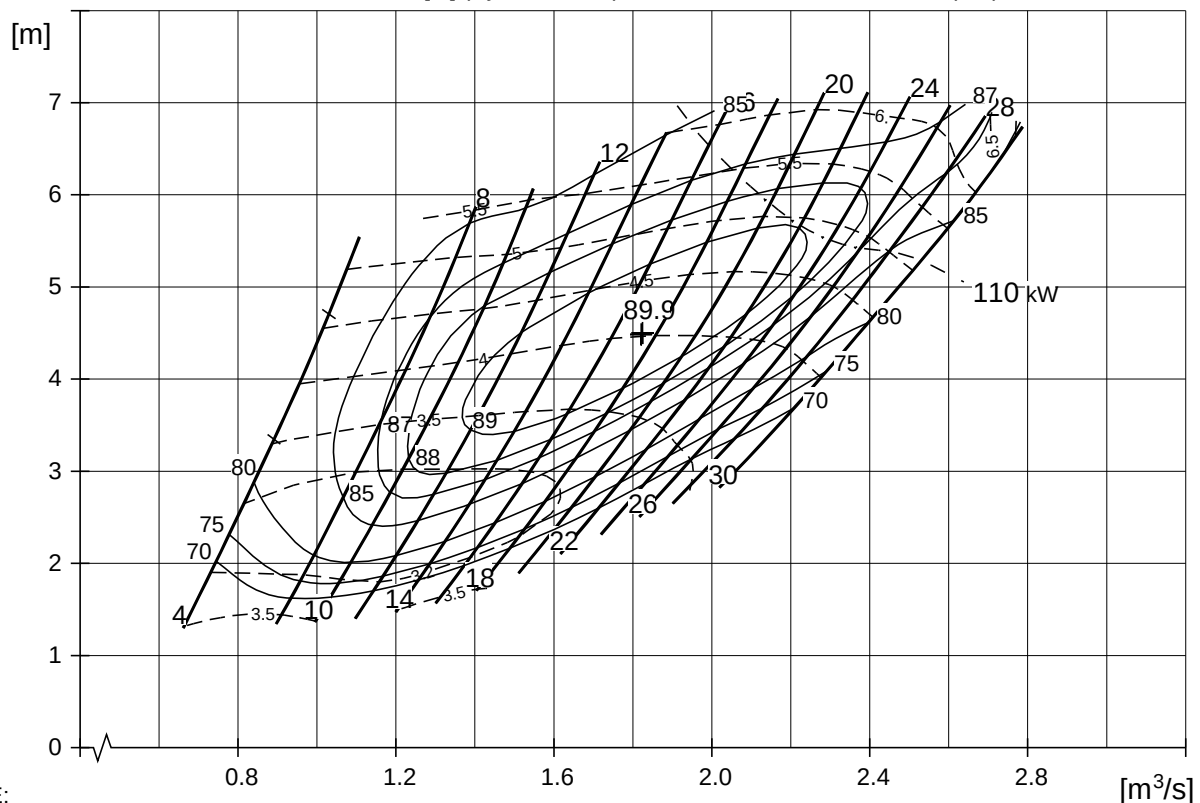
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

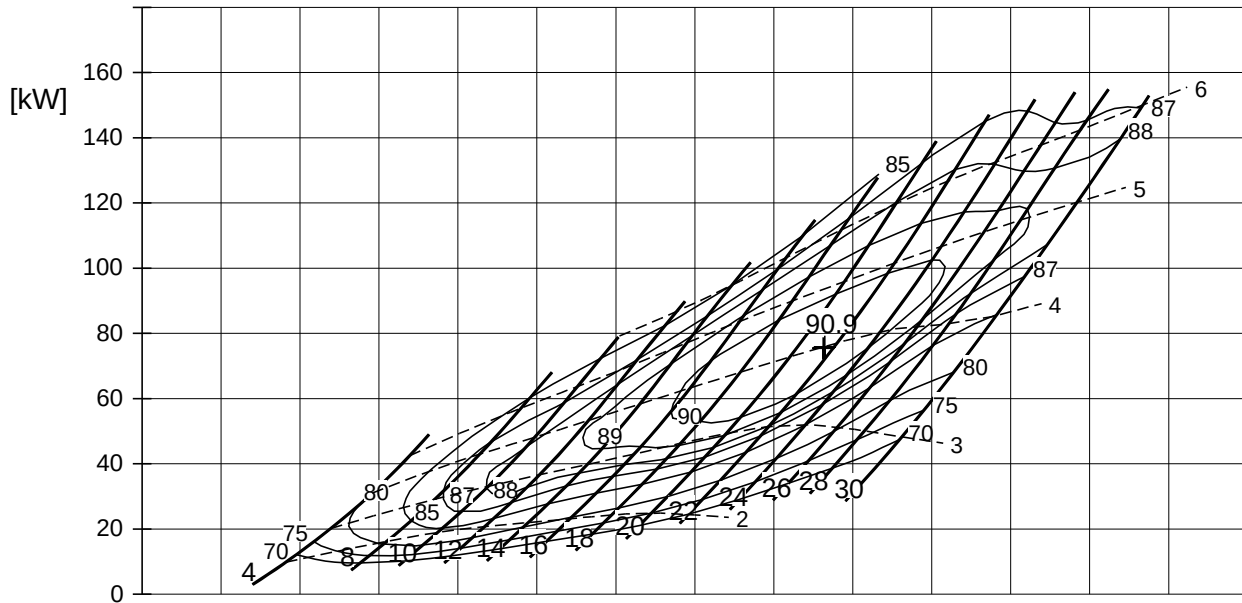
53- 338 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
338 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-13	1: 3.000	94.9% - 93.6%
735	43-44-6BC	6	160	350-13	1: 3.000	95.9% - 95.0%
765	43-56-6BC	6	200	350-13	1: 3.000	96.5% - 95.7%

POWER (SHAFT)

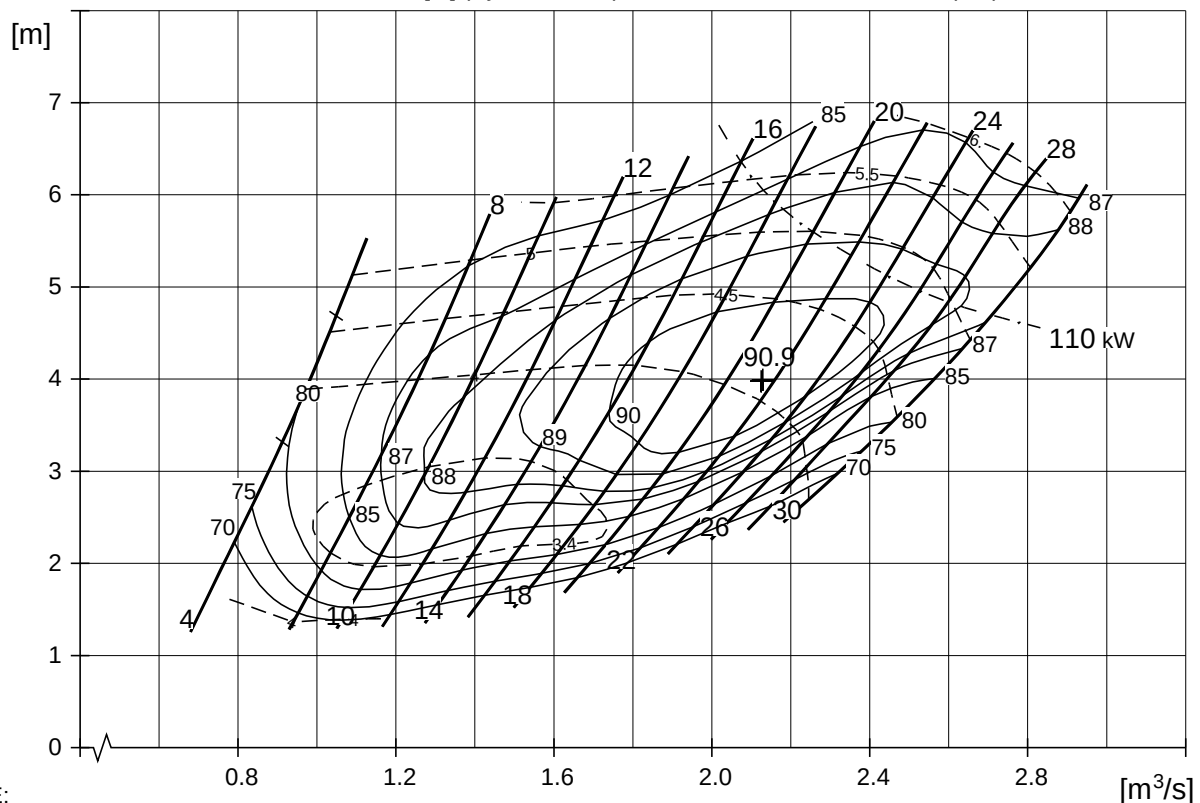
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

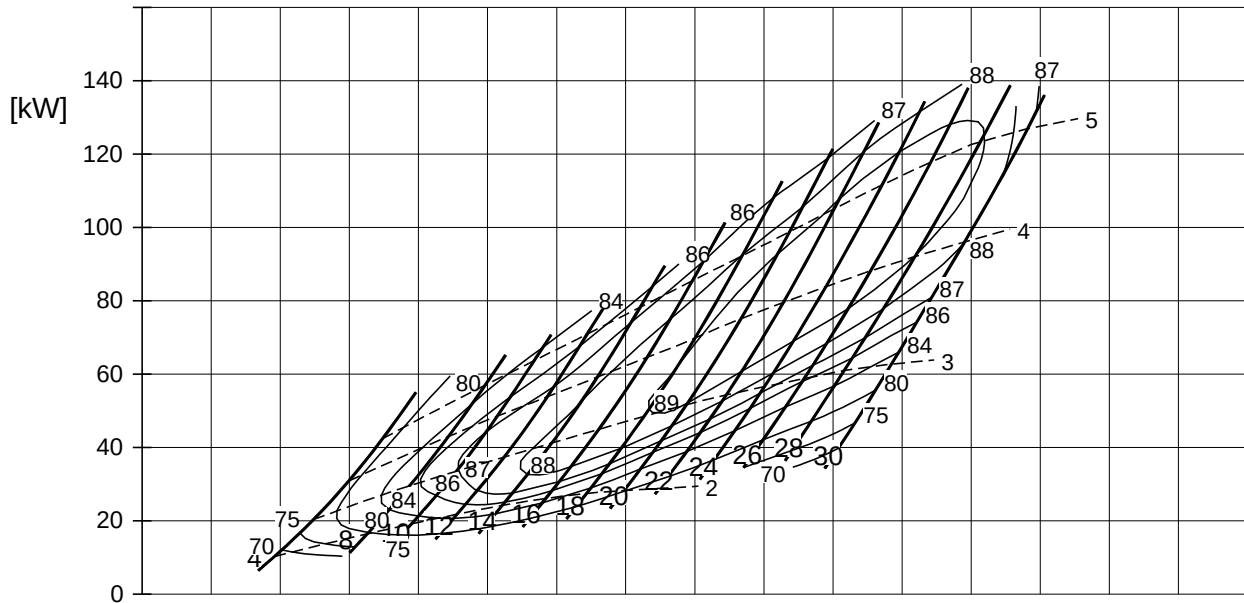
53- 338 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
338 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-13	1: 3.000	94.9% - 93.6%
735	43-44-6BC	6	160	350-13	1: 3.000	95.9% - 95.0%
765	43-56-6BC	6	200	350-13	1: 3.000	96.5% - 95.7%

POWER (SHAFT)

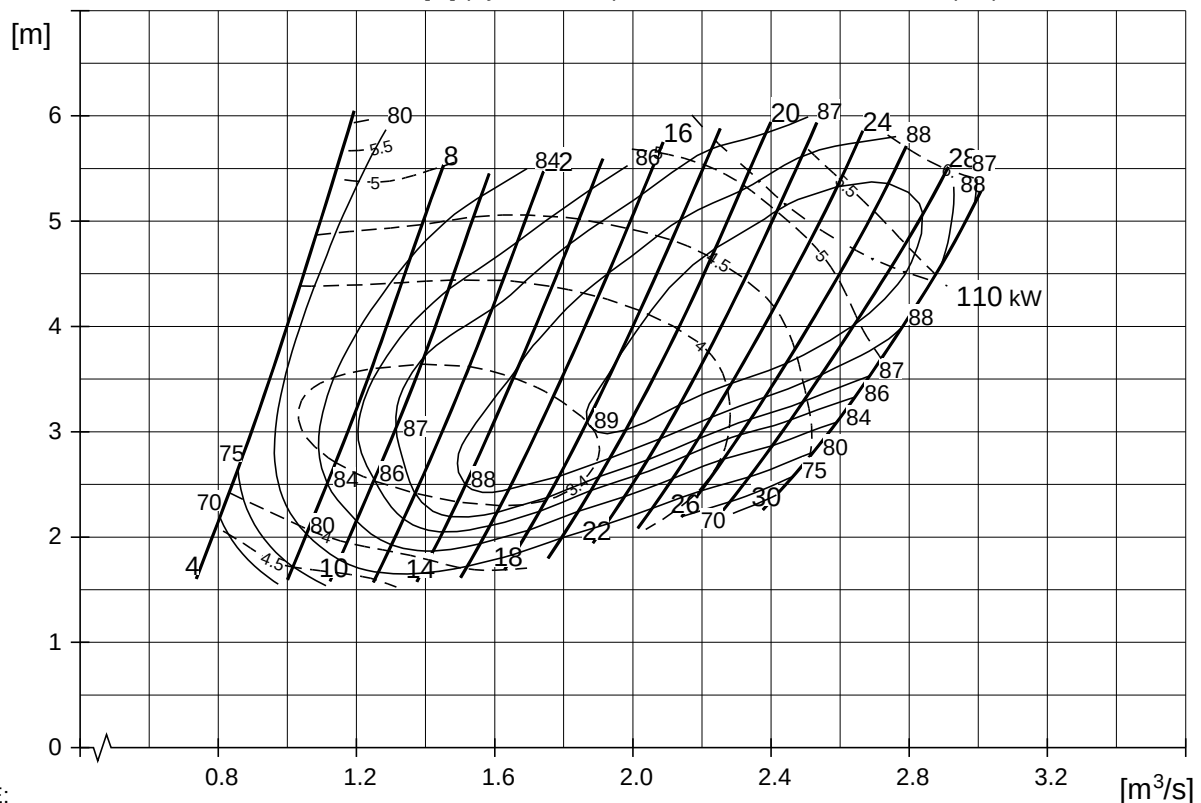
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

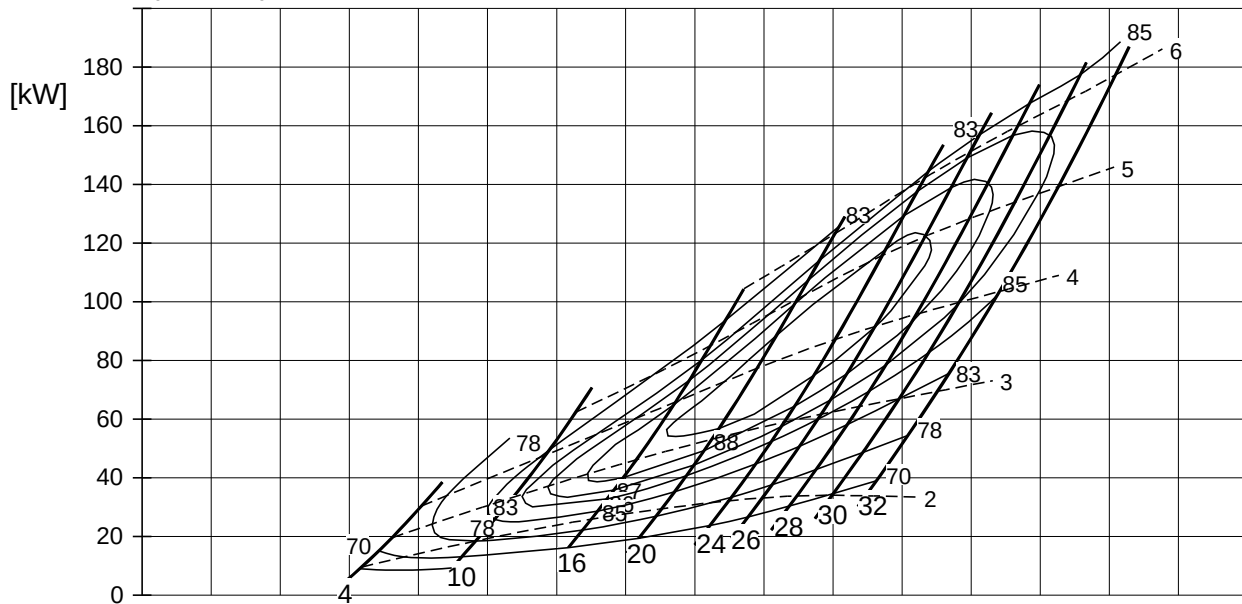
CURVE NO

53- 338 C4E

DATE 2016-02-10	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 338 RPM			
IMPELLER/HUB DIAMETER 850 / 400 mm	GUIDE VANE(S) 70 deg		NO. OF BLADES 4		AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 32 deg	
DRIVE UNIT 705	GENERATOR 43-30-6BC	POLES 6	GEN. POWER 110 kW	GEAR TYPE 350-13	GEAR RATIO 1: 3.000	GEAR EFFICIENCY (Load:1/1-3/4) 94.9% - 93.6%
735	43-44-6BC	6	160	350-13	1: 3.000	95.9% - 95.0%
765	43-56-6BC	6	200	350-13	1: 3.000	96.5% - 95.7%

POWER (SHAFT)

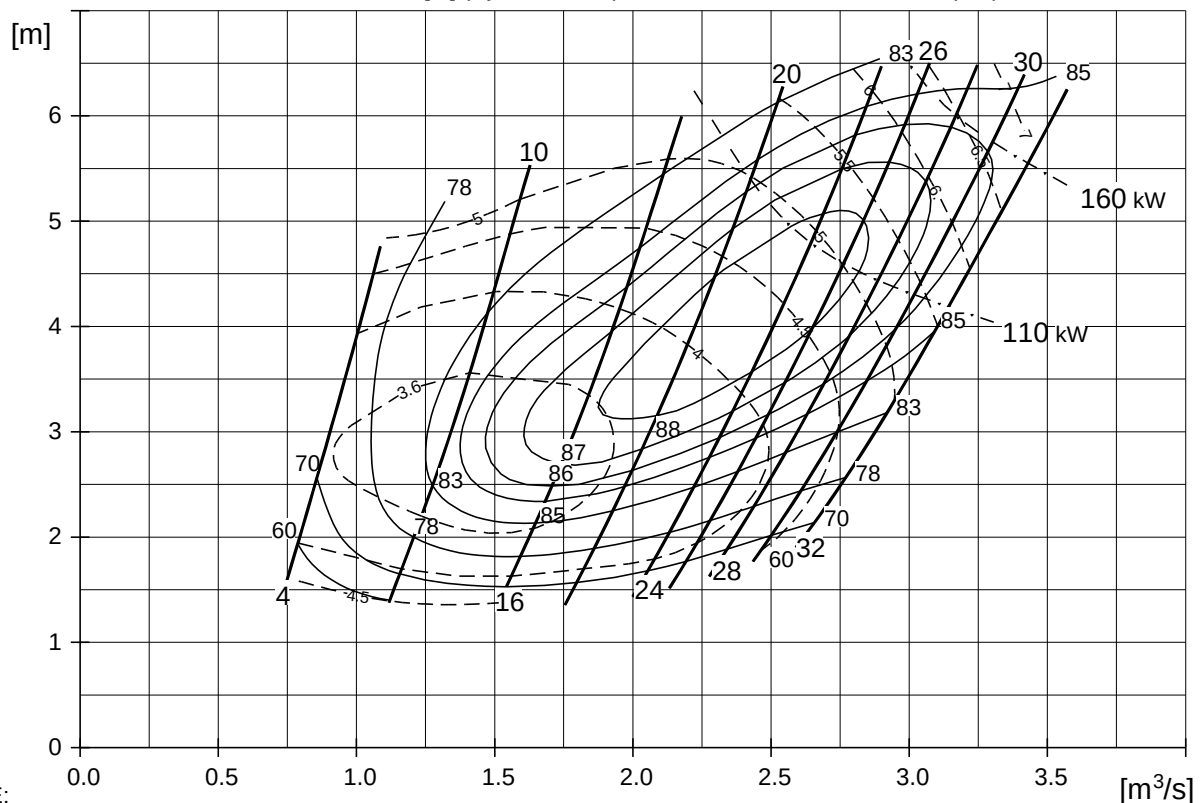
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

53- 382 C4E

DATE
2016-02-10

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
382 RPM

IMPELLER/HUB DIAMETER
850 / 400 mm

GUIDE VANE(S)
50 deg

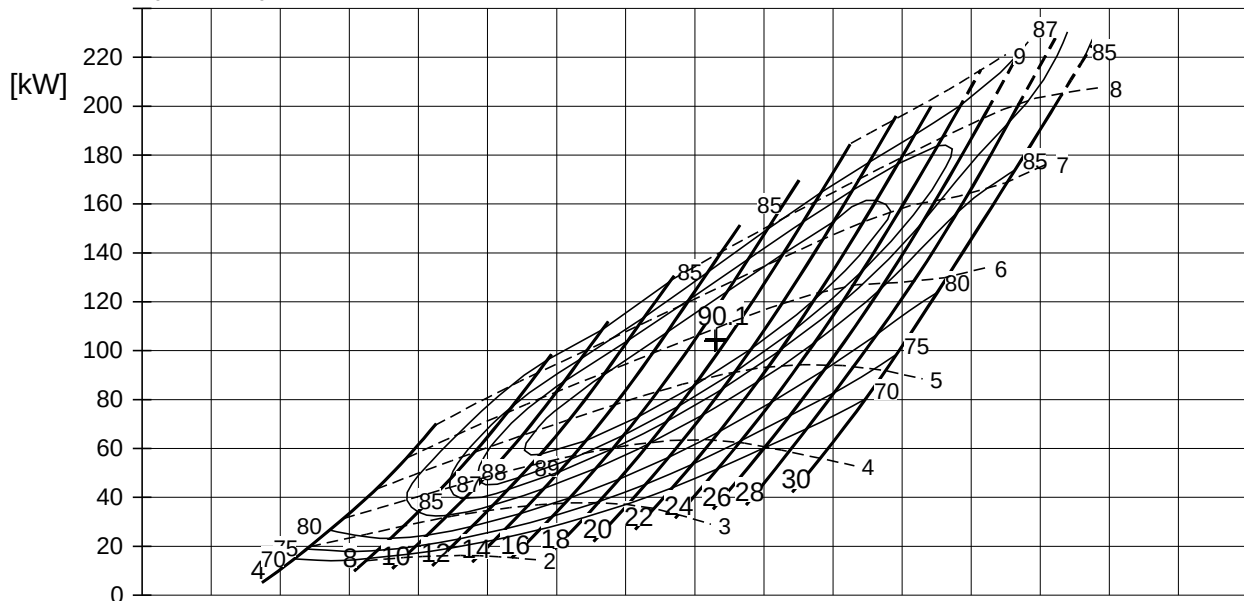
NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-13	1: 2.681	94.4% - 93.1%
735	43-44-6BC	6	160	350-13	1: 2.681	95.7% - 94.8%
765	43-56-6BC	6	200	350-13	1: 2.681	96.3% - 95.5%

POWER (SHAFT)

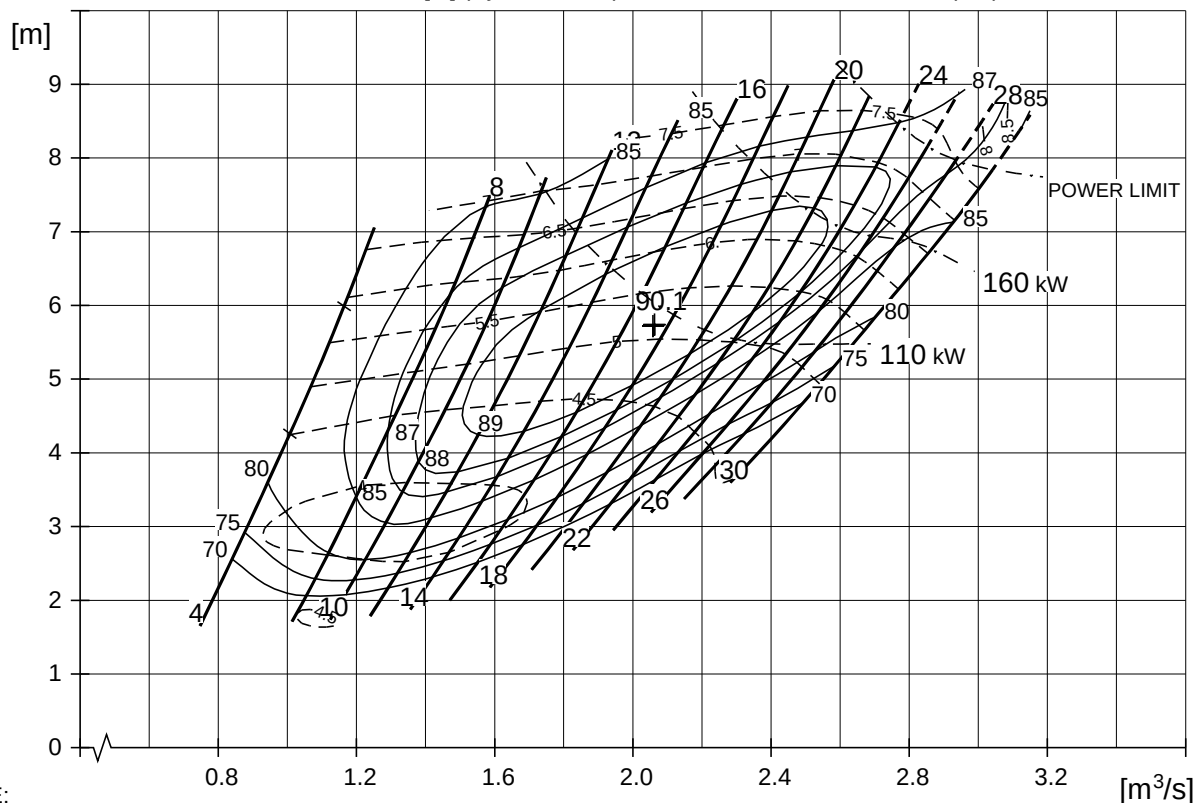
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

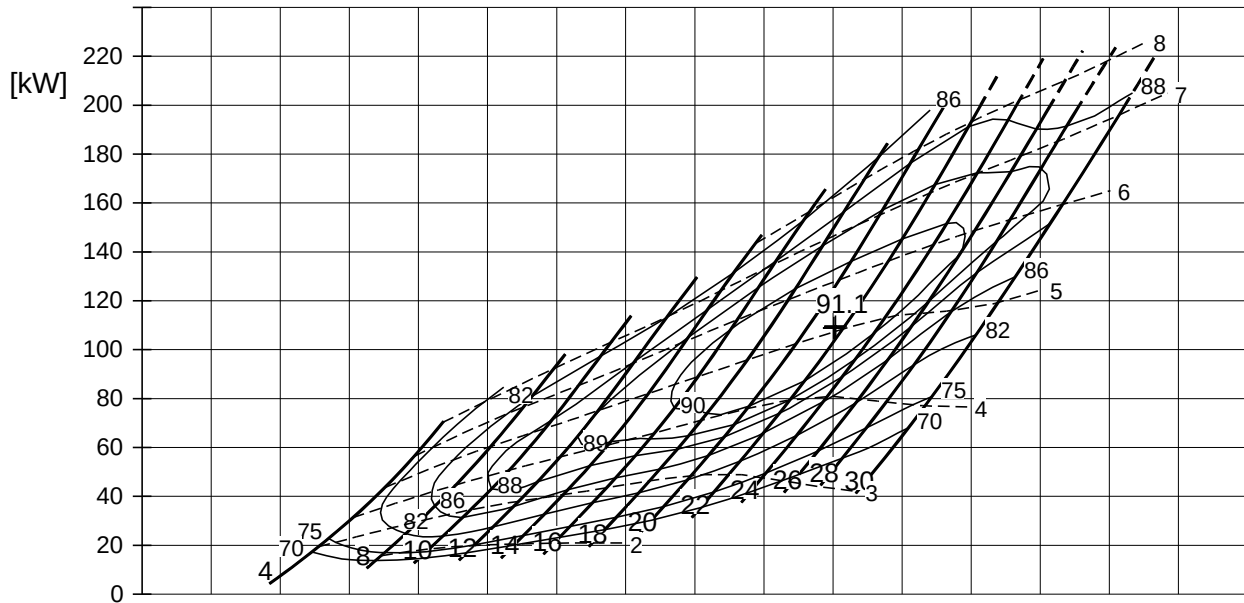
53- 382 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
382 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-13	1: 2.681	94.5% - 93.3%
735	43-44-6BC	6	160	350-13	1: 2.681	95.7% - 94.7%
765	43-56-6BC	6	200	350-13	1: 2.681	96.3% - 95.5%

POWER (SHAFT)

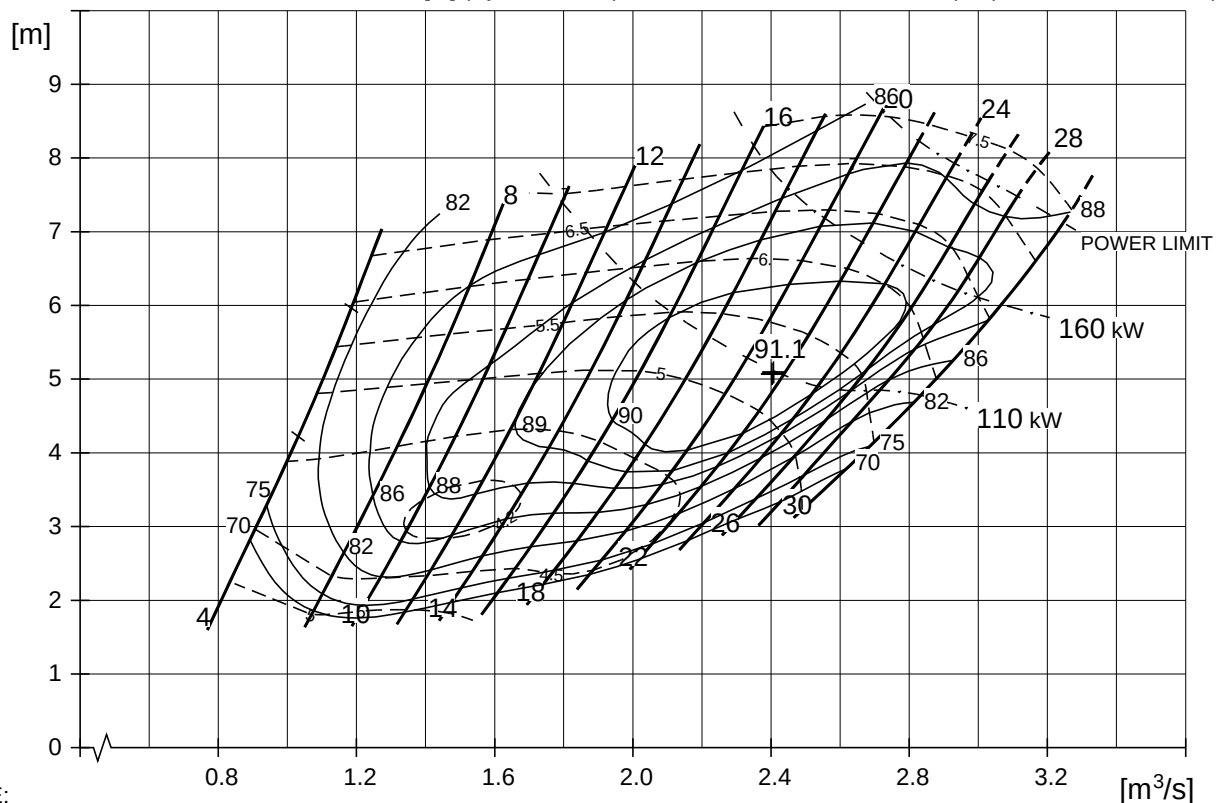
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

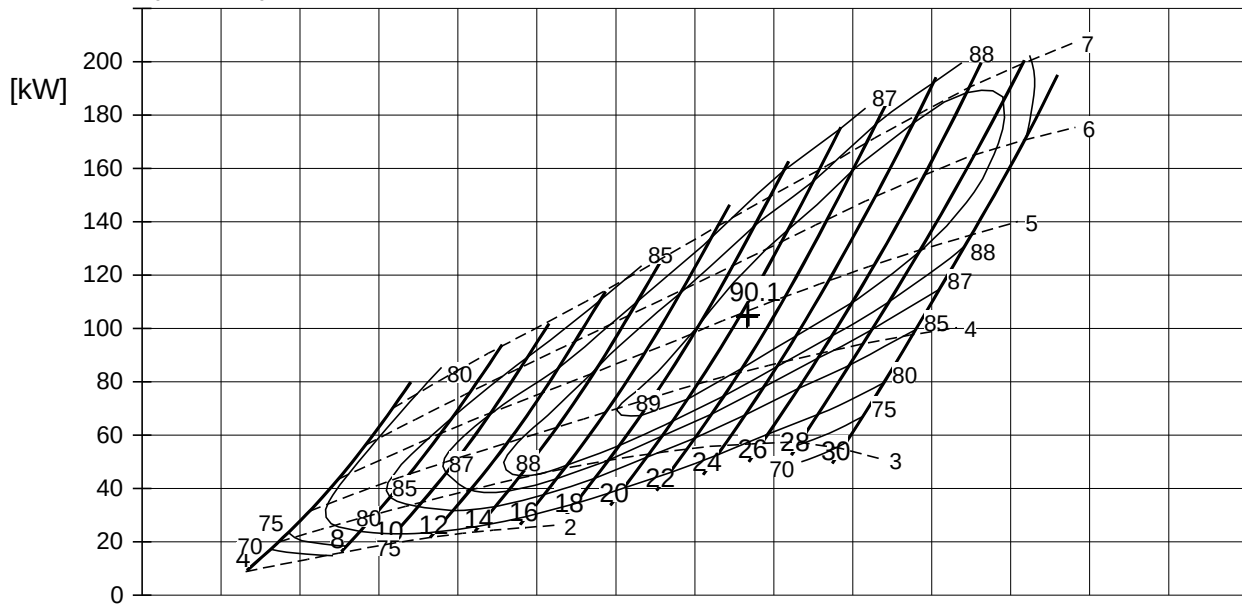
53- 382 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
382 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-13	1: 2.681	94.5% - 93.3%
735	43-44-6BC	6	160	350-13	1: 2.681	95.7% - 94.7%
765	43-56-6BC	6	200	350-13	1: 2.681	96.3% - 95.5%

POWER (SHAFT)

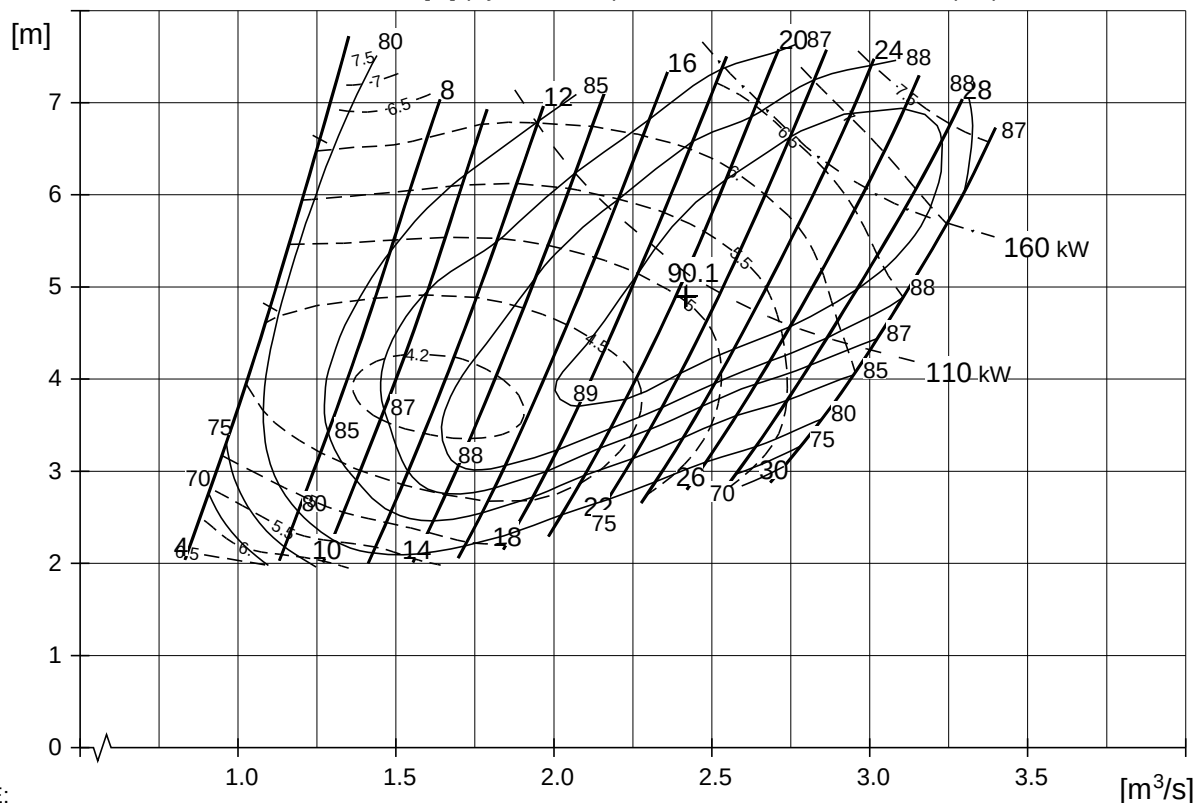
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

53- 380 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
380 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 degDRIVE UNIT
705GENERATOR
43-30-6BCPOLES
6GEN. POWER
110 kWGEAR TYPE
350-13GEAR RATIO
1: 2.681GEAR EFFICIENCY (Load:1/1-3/4)
94.4% - 93.1%

735

43-44-6BC

6

160

350-13

1: 2.681

95.7% - 94.7%

765

43-56-6BC

6

200

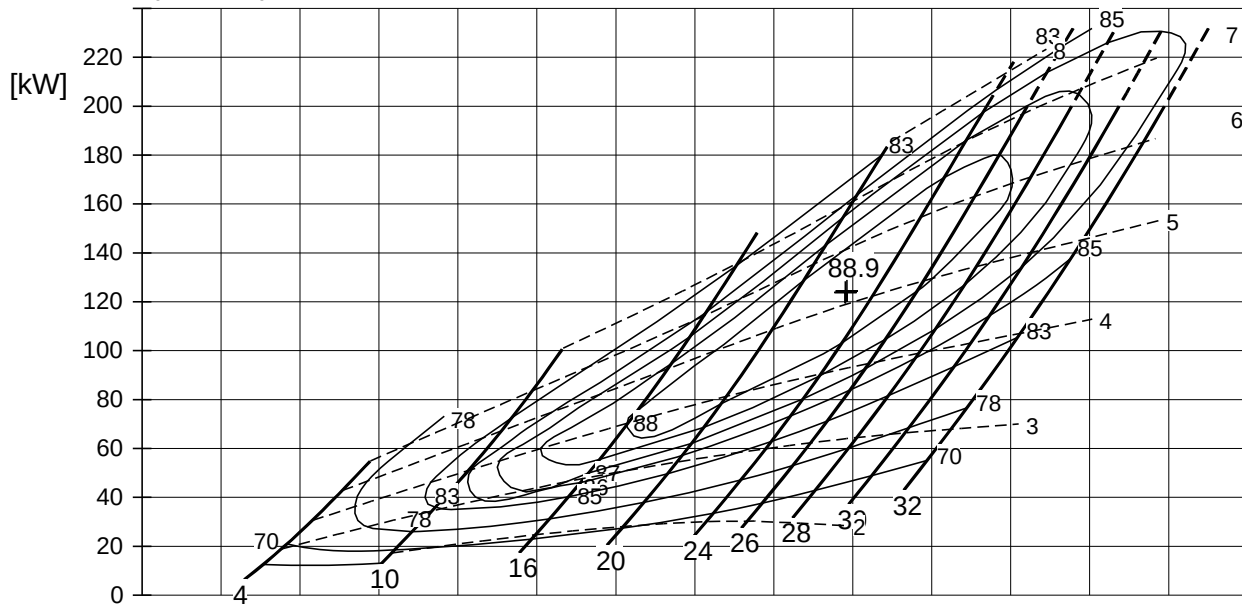
350-13

1: 2.681

96.3% - 95.5%

POWER (SHAFT)

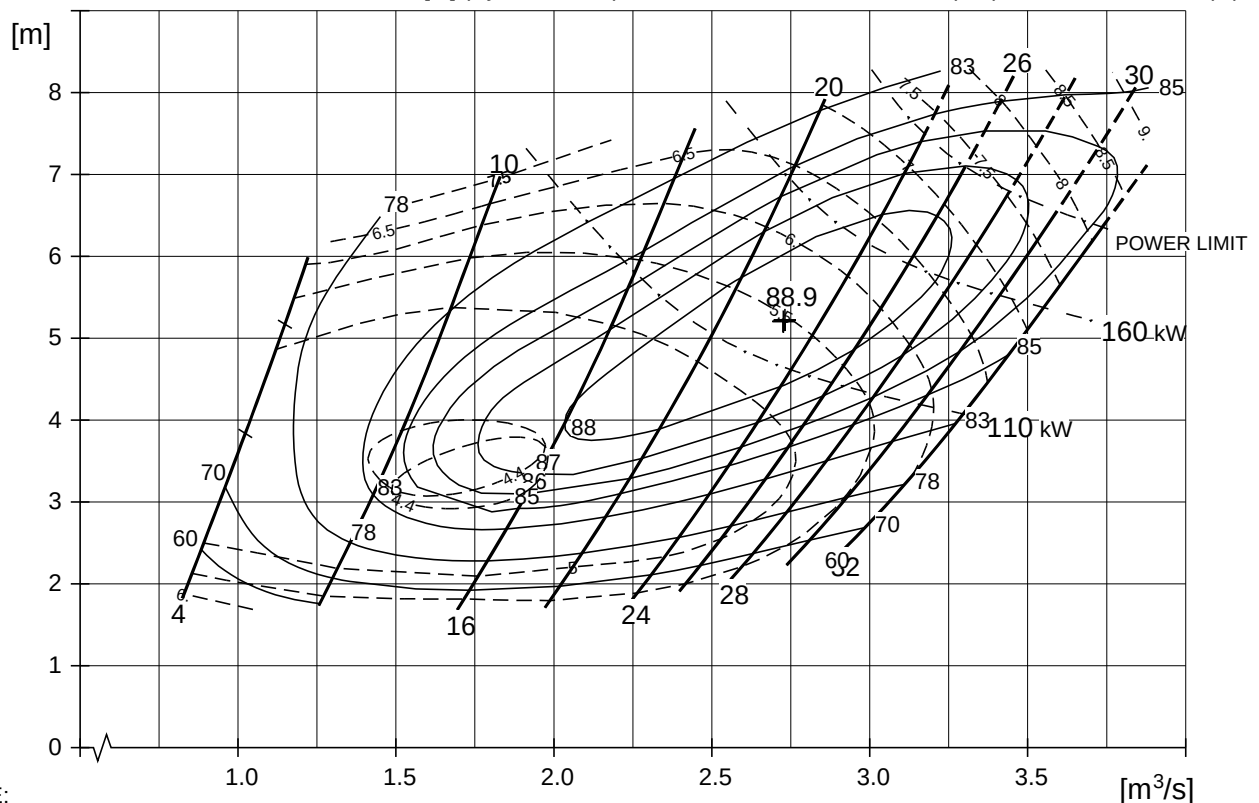
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

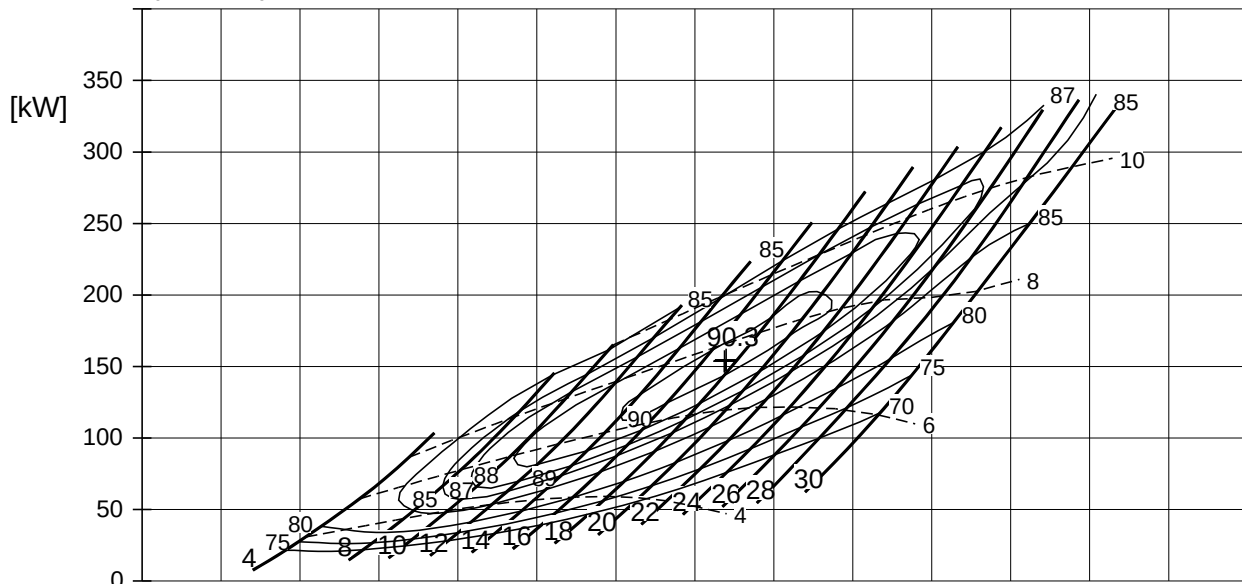
53- 435 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
435 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-6BC	6	160 kW	350-13	1: 2.333	96.5% - 95.8%
765	43-56-6BC	6	200	350-13	1: 2.333	97.0% - 96.3%
835	54-52-6AA	6	250	350-13	1: 2.333	97.3% - 96.8%
865	54-66-6AA	6	340	350-13	1: 2.333	97.7% - 97.4%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)



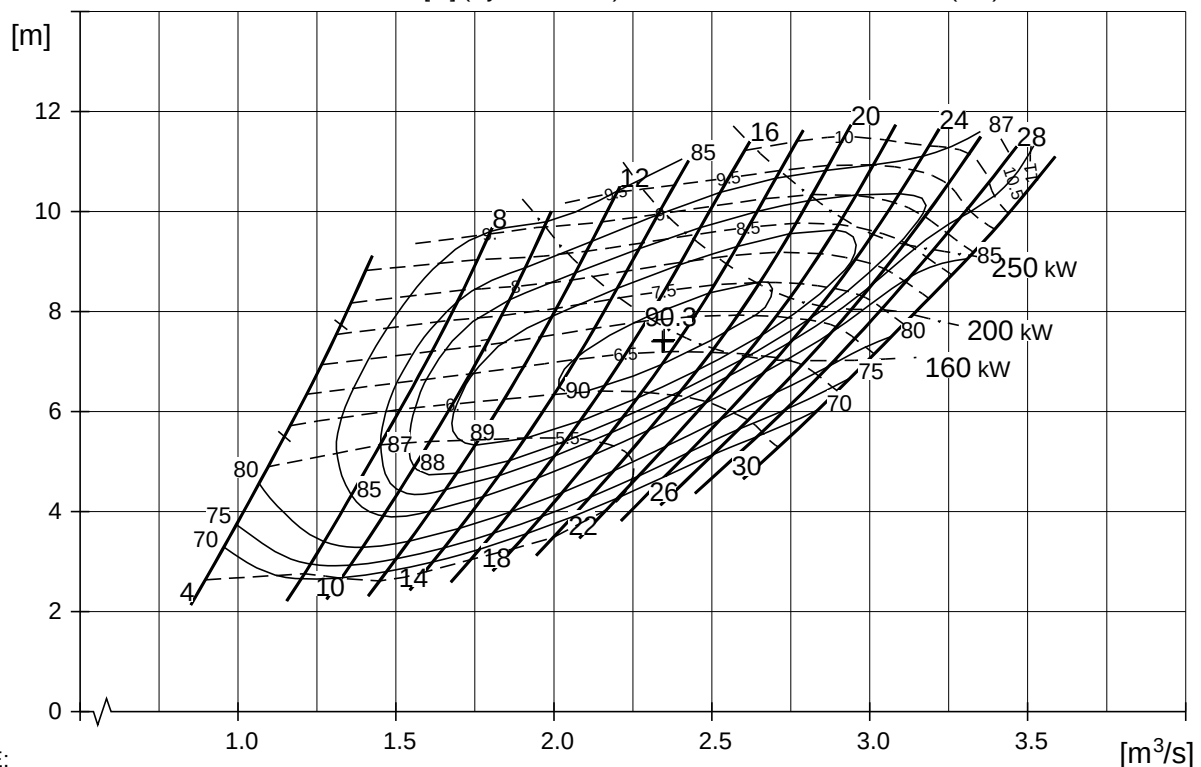
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

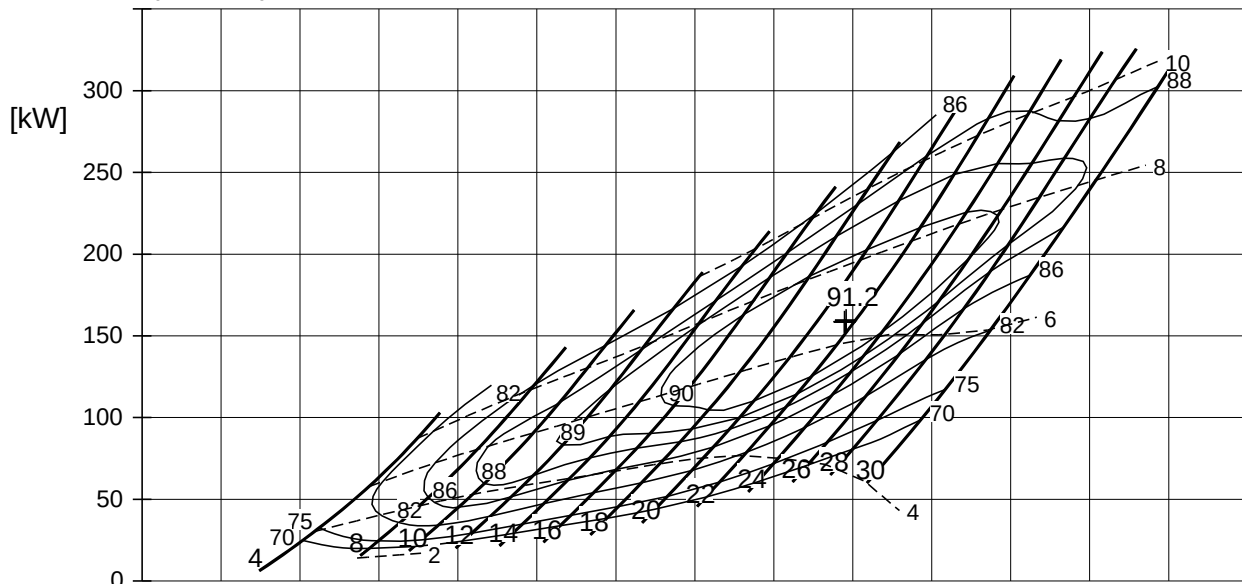
53- 433 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
433 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-6BC	6	160 kW	350-13	1: 2.333	96.5% - 95.7%
765	43-56-6BC	6	200	350-13	1: 2.333	97.0% - 96.3%
835	54-52-6AA	6	250	350-13	1: 2.333	97.3% - 96.8%
865	54-66-6AA	6	340	350-13	1: 2.333	97.7% - 97.4%

POWER (SHAFT)

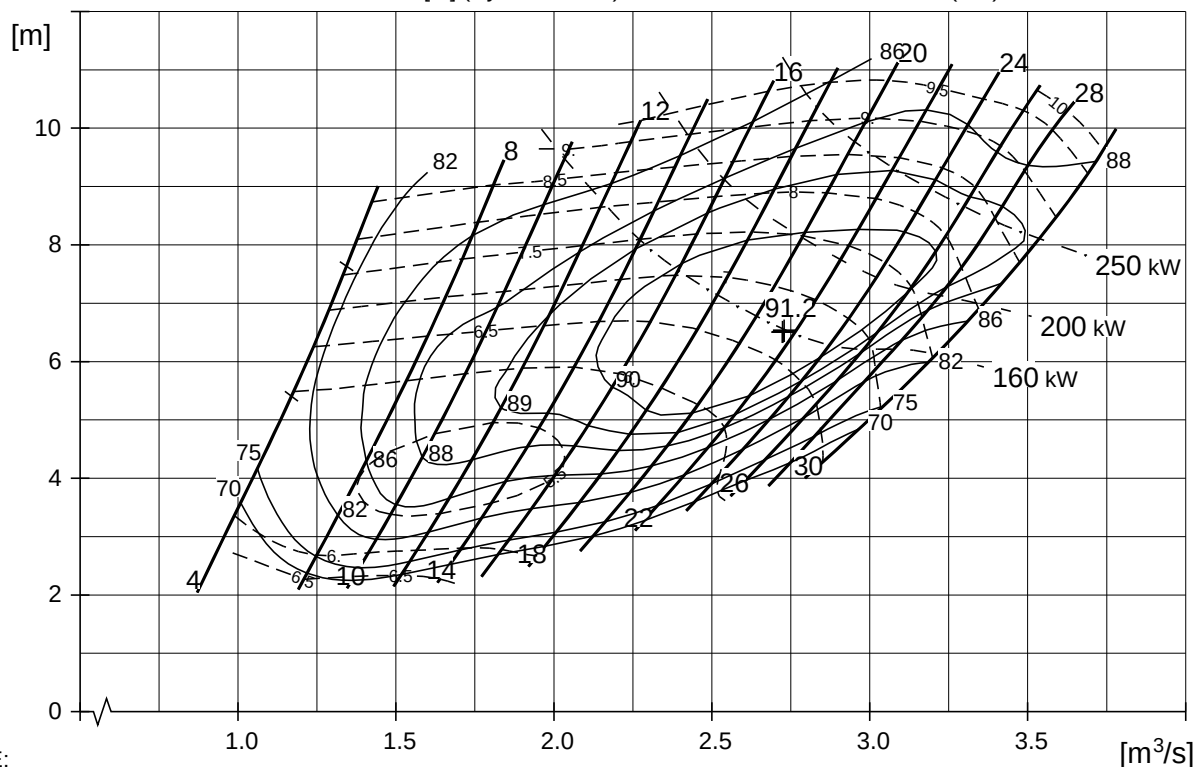
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

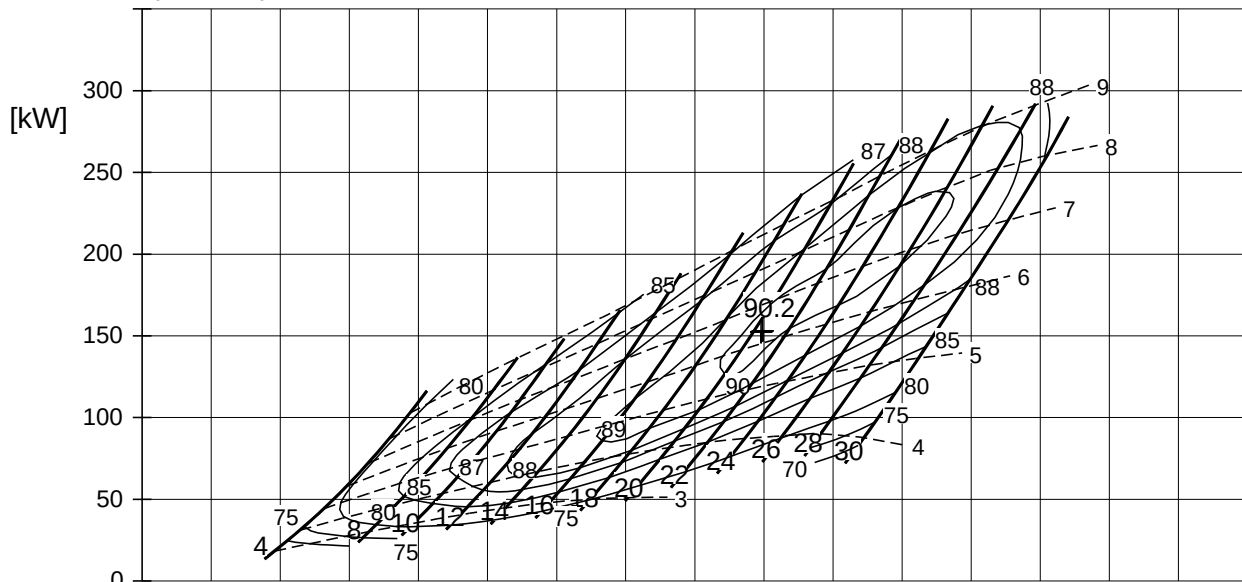
53- 433 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
433 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-6BC	6	160 kW	350-13	1: 2.333	96.5% - 95.7%
765	43-56-6BC	6	200	350-13	1: 2.333	97.0% - 96.3%
835	54-52-6AA	6	250	350-13	1: 2.333	97.3% - 96.8%
865	54-66-6AA	6	340	350-13	1: 2.333	97.7% - 97.4%

POWER (SHAFT)

ISO-CURVES : (- - -) HEAD(m)



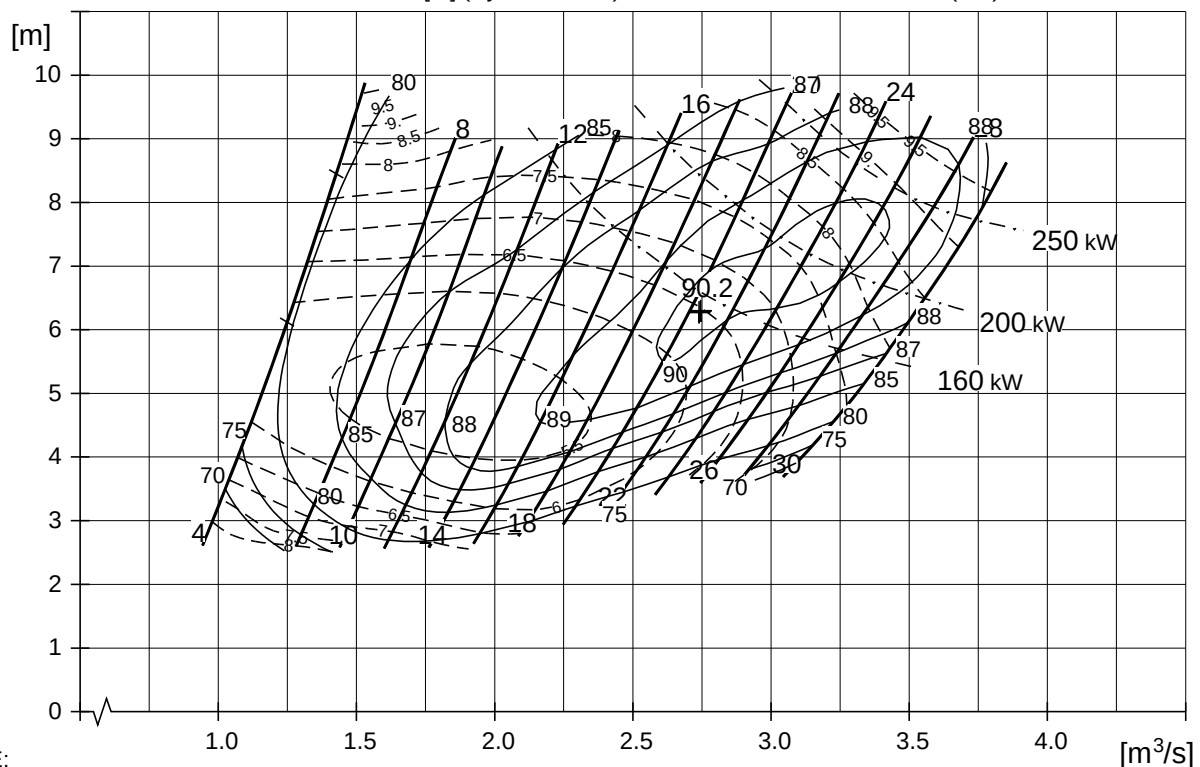
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

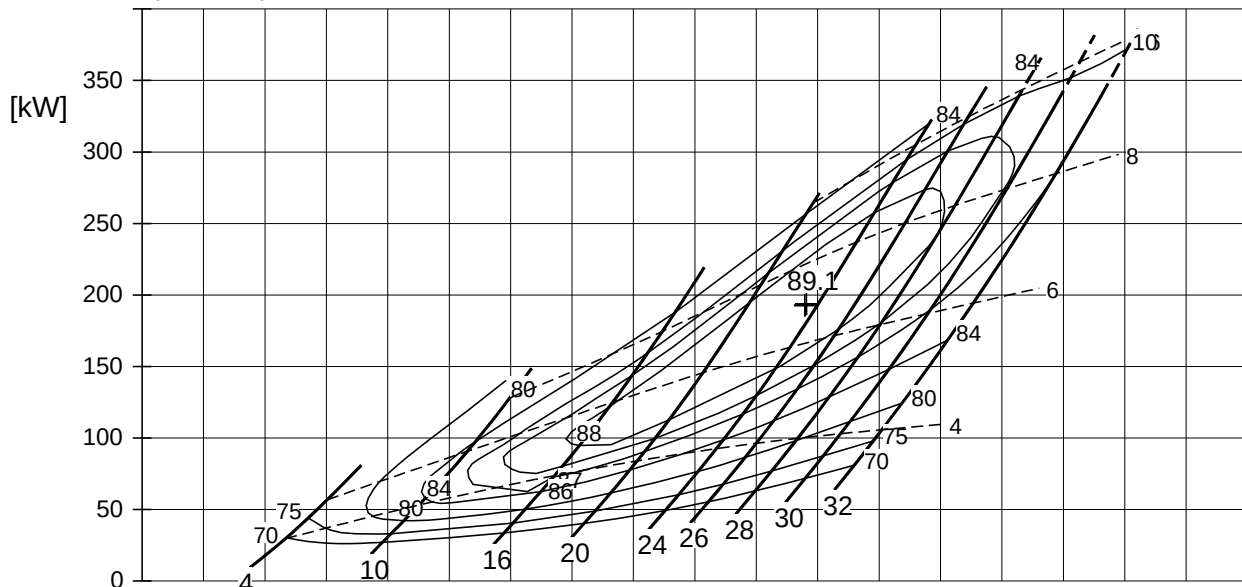
53- 433C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
433 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-6BC	6	160 kW	350-13	1: 2.333	96.5% - 95.7%
765	43-56-6BC	6	200	350-13	1: 2.333	97.0% - 96.3%
835	54-52-6AA	6	250	350-13	1: 2.333	97.3% - 96.8%
865	54-66-6AA	6	340	350-13	1: 2.333	97.7% - 97.4%

POWER (SHAFT)

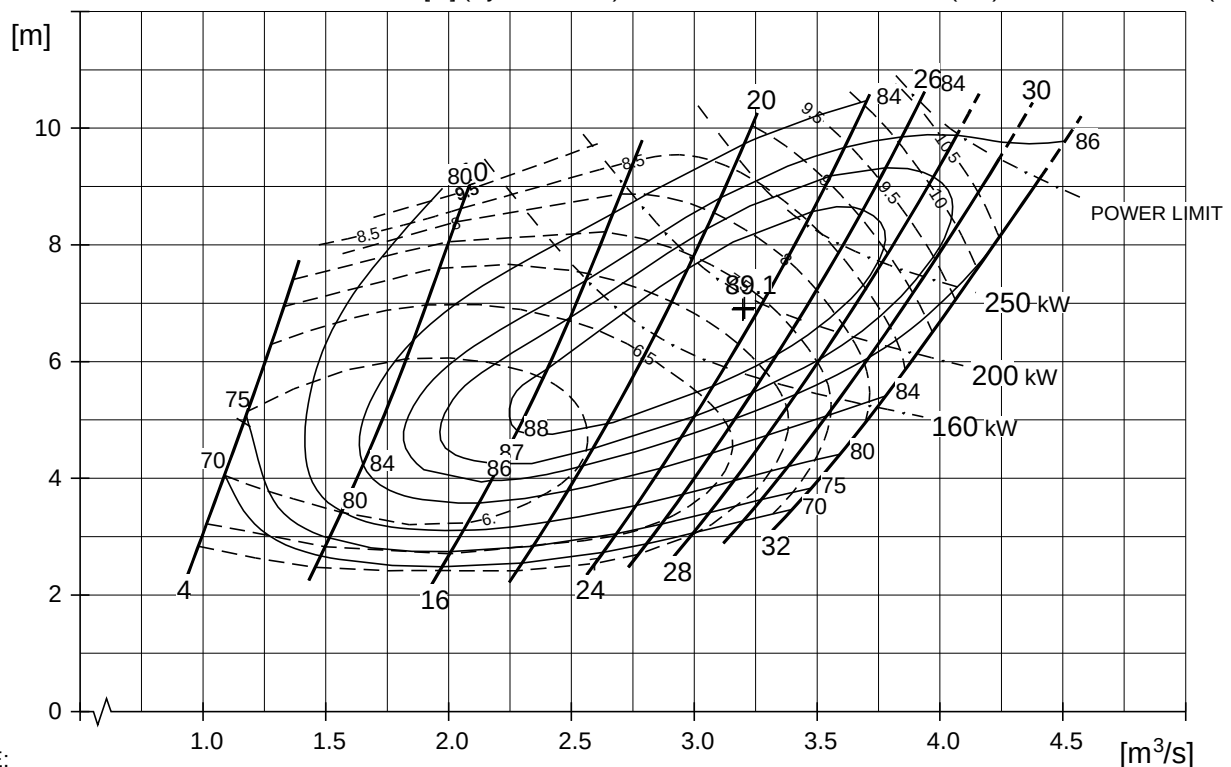
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

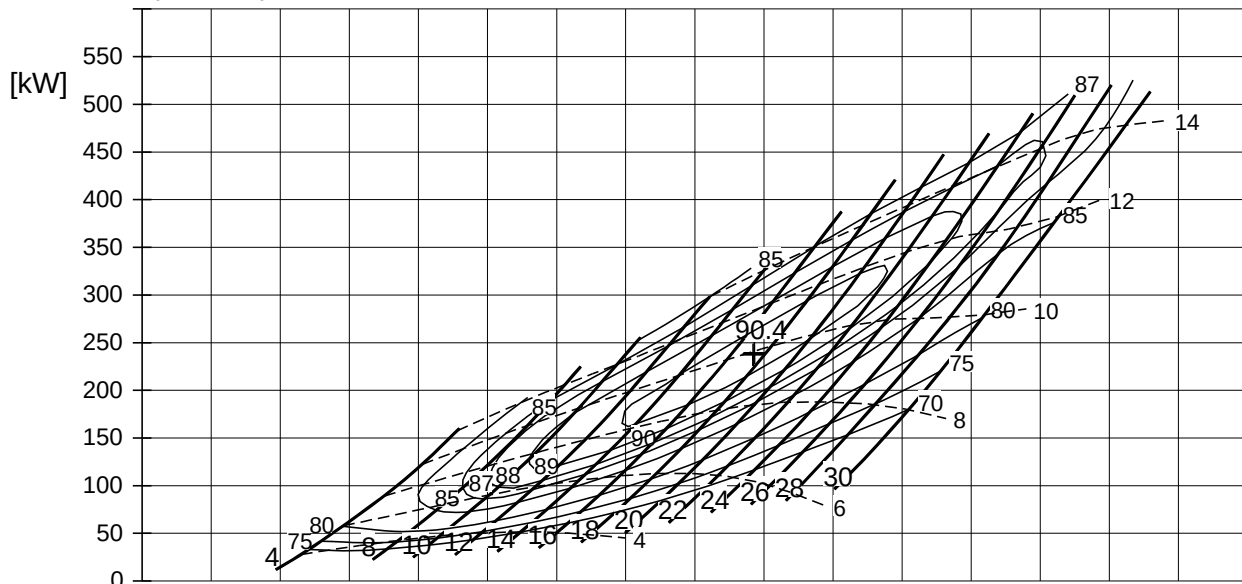
53- 503 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
503 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-6BC	6	200 kW	350-13	1: 2.000	96.7% - 96.0%
865	54-66-6AA	6	340	350-13	1: 2.000	97.6% - 97.2%
935	66-66-6AA	6	500	350-13	1: 2.000	97.9% - 97.7%
935	66-76-6AA	6	600	360-13	1: 2.000	98.0% - 97.9%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)



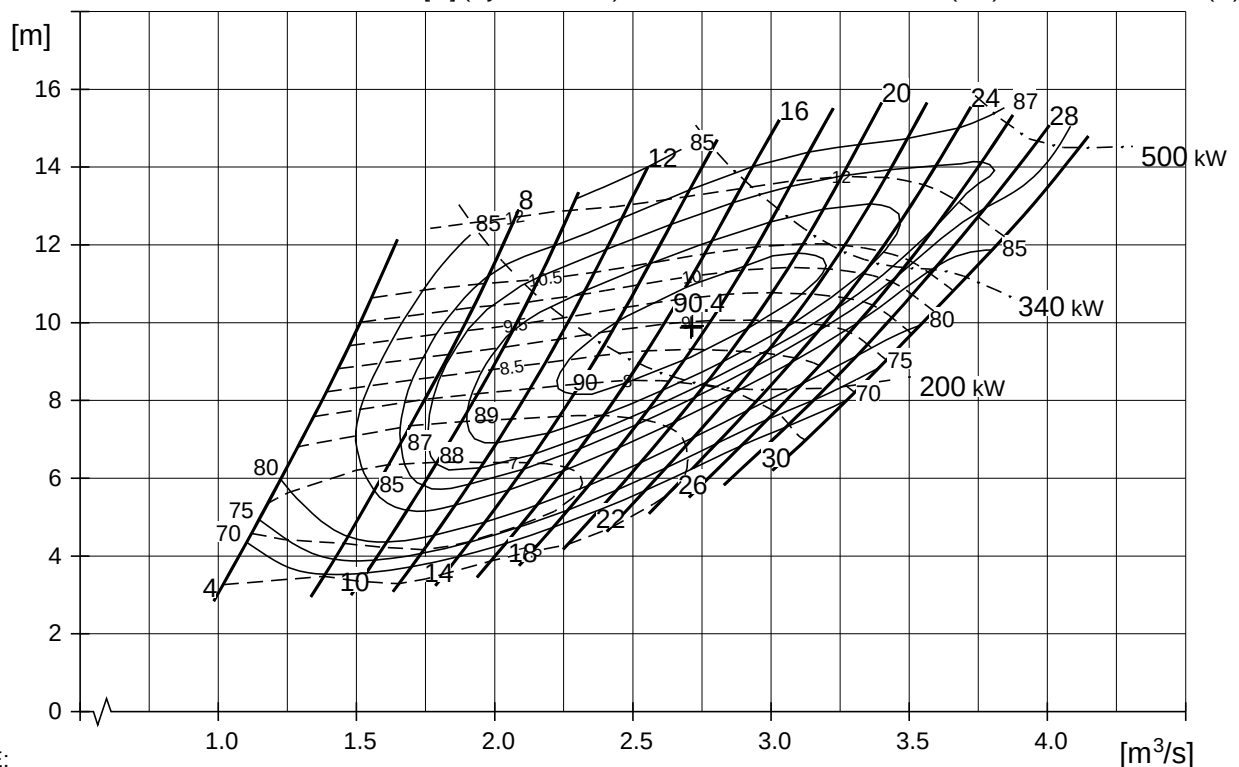
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

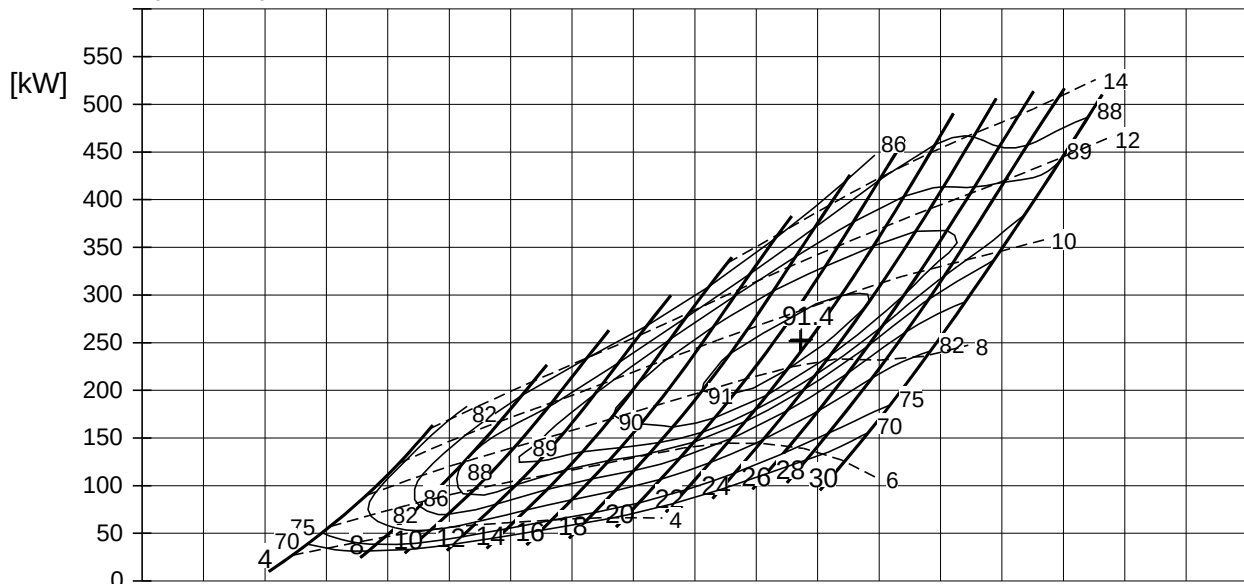
53- 505 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
505 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-6BC	6	200 kW	350-13	1: 2.000	96.7% - 96.0%
865	54-66-6AA	6	340	350-13	1: 2.000	97.6% - 97.2%
935	66-66-6AA	6	500	350-13	1: 2.000	97.9% - 97.7%
935	66-76-6AA	6	600	360-13	1: 2.000	98.0% - 97.8%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)



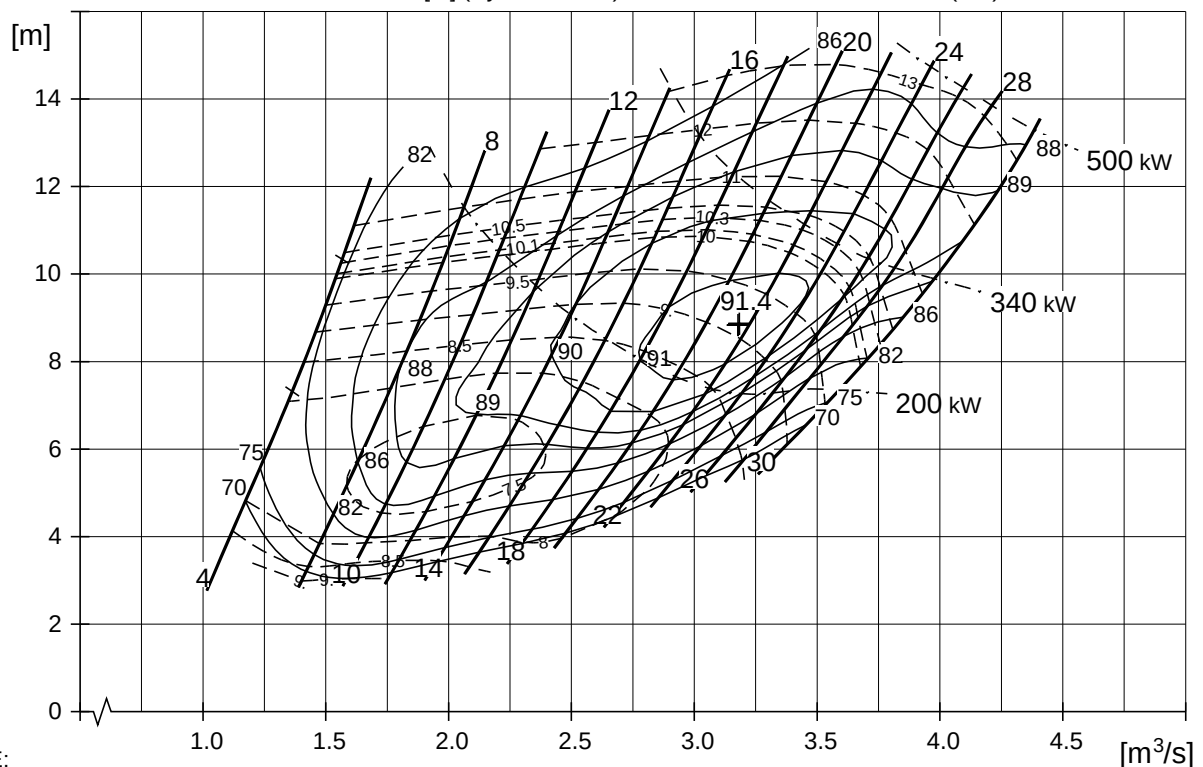
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

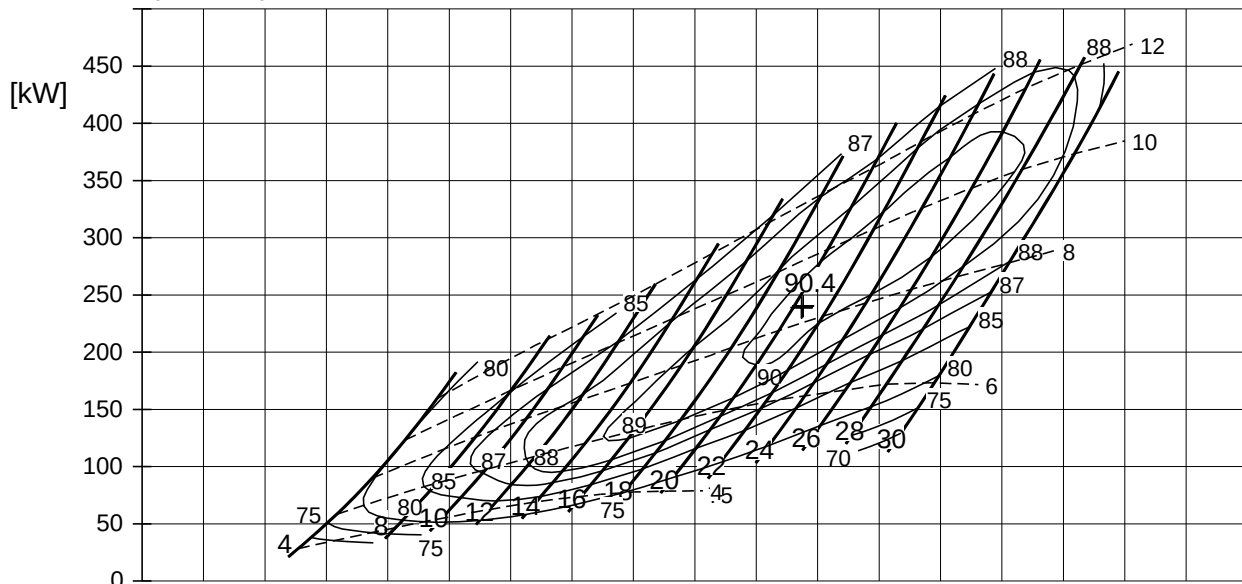
53- 503 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
503 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-6BC	6	200 kW	350-13	1: 2.000	96.7% - 96.0%
865	54-66-6AA	6	340	350-13	1: 2.000	97.6% - 97.2%
935	66-66-6AA	6	500	350-13	1: 2.000	97.9% - 97.7%
935	66-76-6AA	6	600	360-13	1: 2.000	98.0% - 97.8%

POWER (SHAFT)

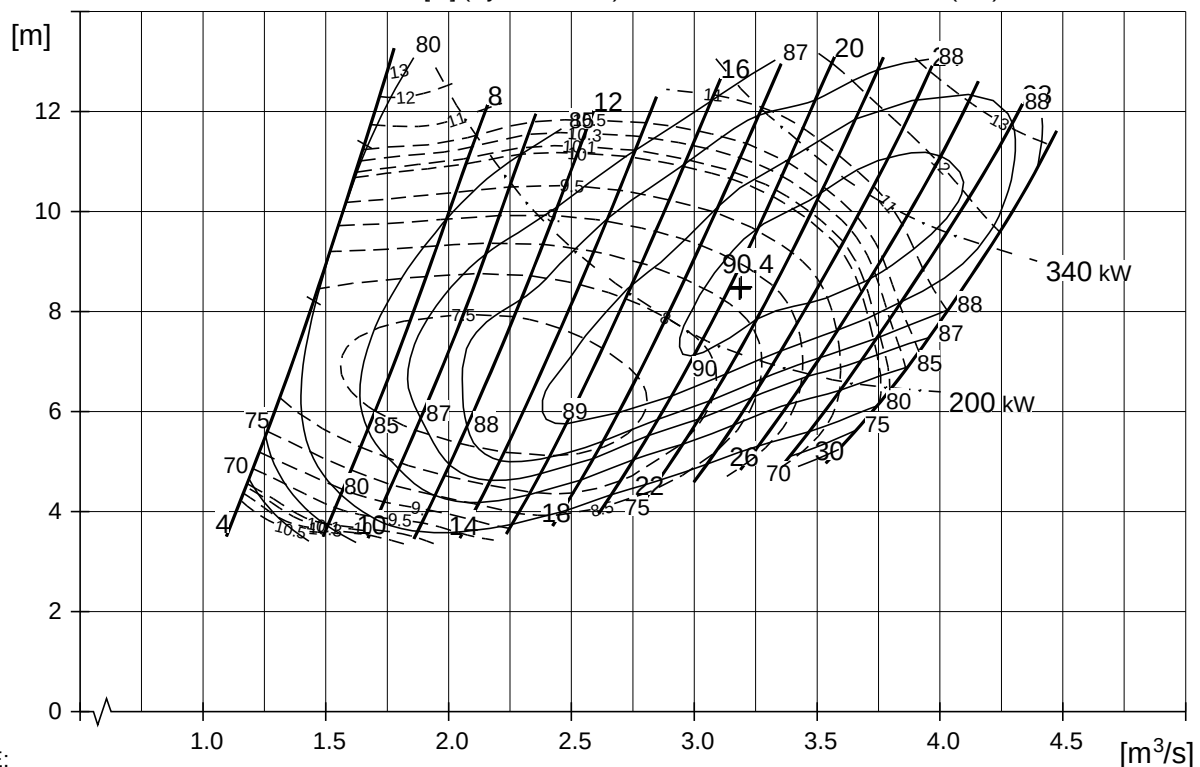
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

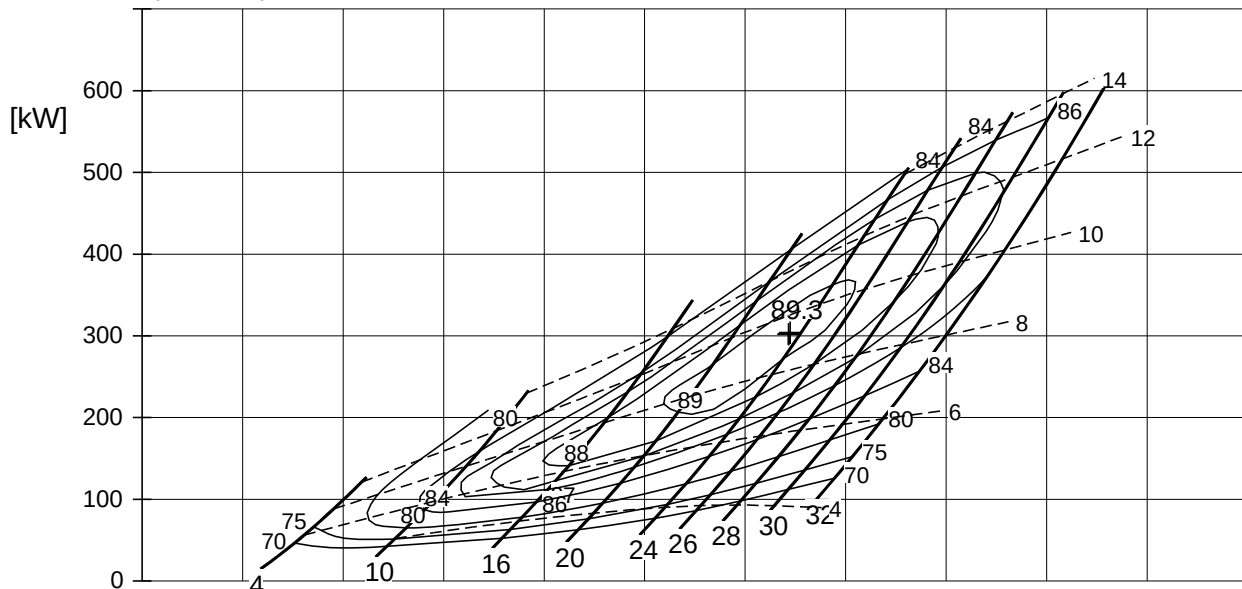
53- 503 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
503 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-6BC	6	200 kW	350-13	1: 2.000	96.7% - 96.0%
865	54-66-6AA	6	340	350-13	1: 2.000	97.6% - 97.2%
935	66-66-6AA	6	500	350-13	1: 2.000	97.9% - 97.7%
935	66-76-6AA	6	600	360-13	1: 2.000	98.0% - 97.8%

POWER (SHAFT)

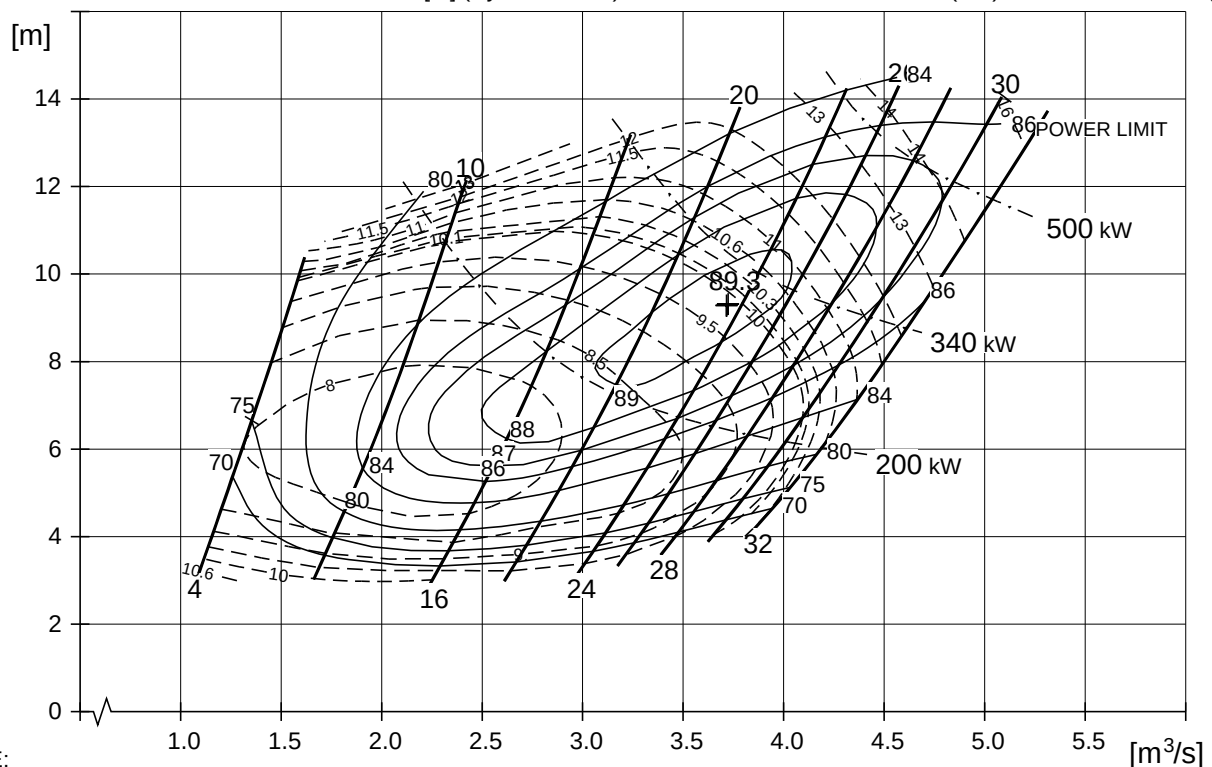
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

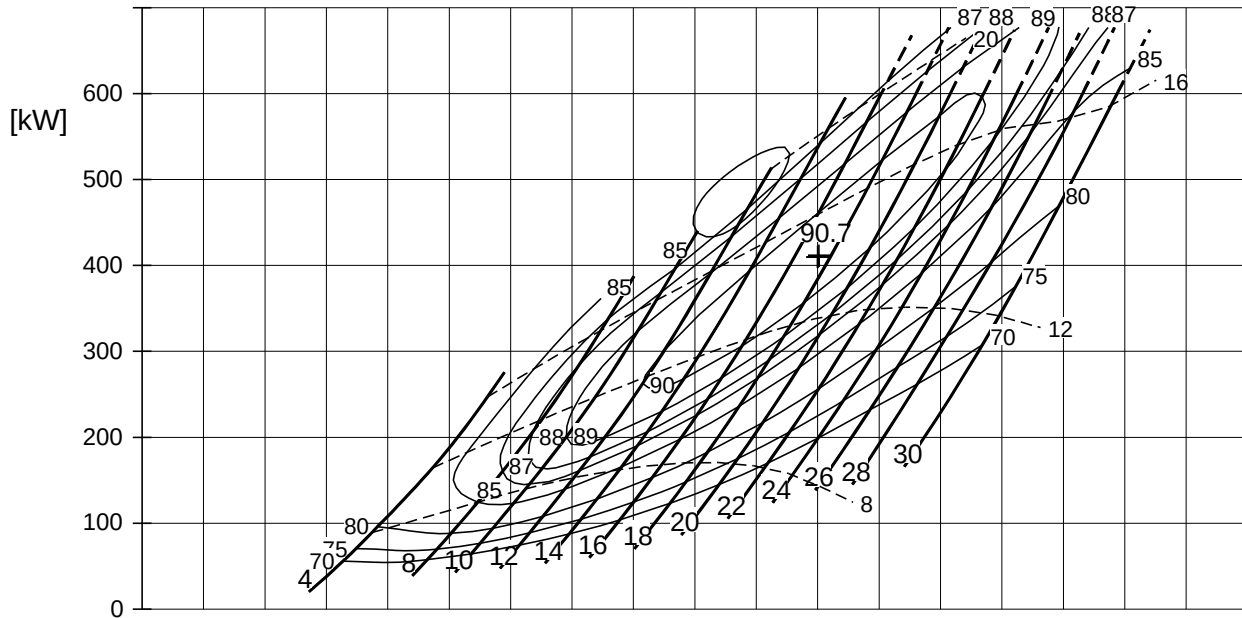
CURVE NO

53- 603 C4E

DATE 2016-02-10		ISSUE 4		FREQ. 50 HZ		NOMINAL HYDRAULIC-END SPEED 603 RPM		53- 603C4E	
IMPELLER/HUB DIAMETER 850 / 400 mm		GUIDE VANE(S) 50 deg				NO. OF BLADES 4		AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 30 deg	
DRIVE UNIT 935	GENERATOR 66-66-6AA		POLES 6	GEN. POWER 500 kW		GEAR TYPE 360-13		GEAR RATIO 1: 1.674	GEAR EFFICIENCY (Load:1/1-3/4) 97.8% - 97.5%
935	66-76-6AA		6	600		360-13		1: 1.674	97.9% - 97.6%

POWER (SHAFT)

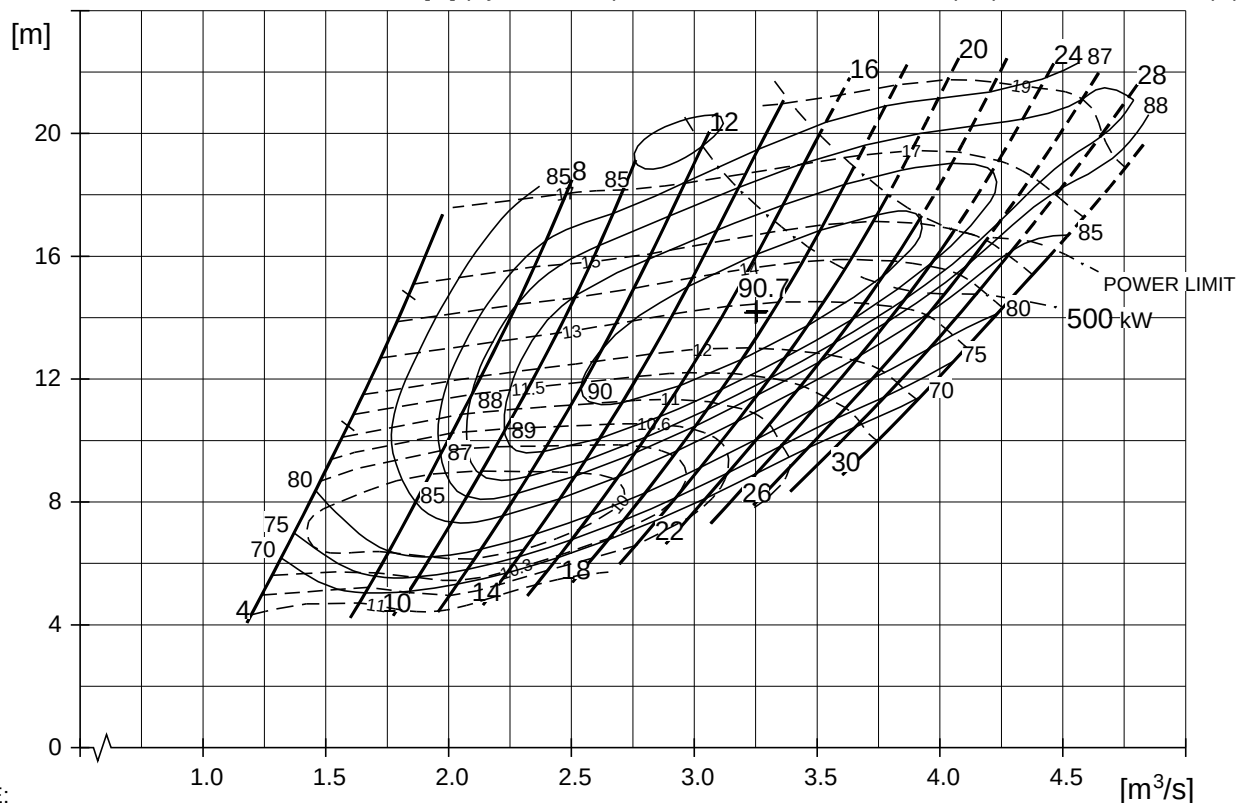
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

53- 603 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
603 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
935GENERATOR
66-66-6AAPOLES
6GEN. POWER
500 kWGEAR TYPE
360-13GEAR RATIO
1: 1.674GEAR EFFICIENCY (Load:1/1-3/4)
97.8% - 97.5%

935

66-76-6AA

6

600

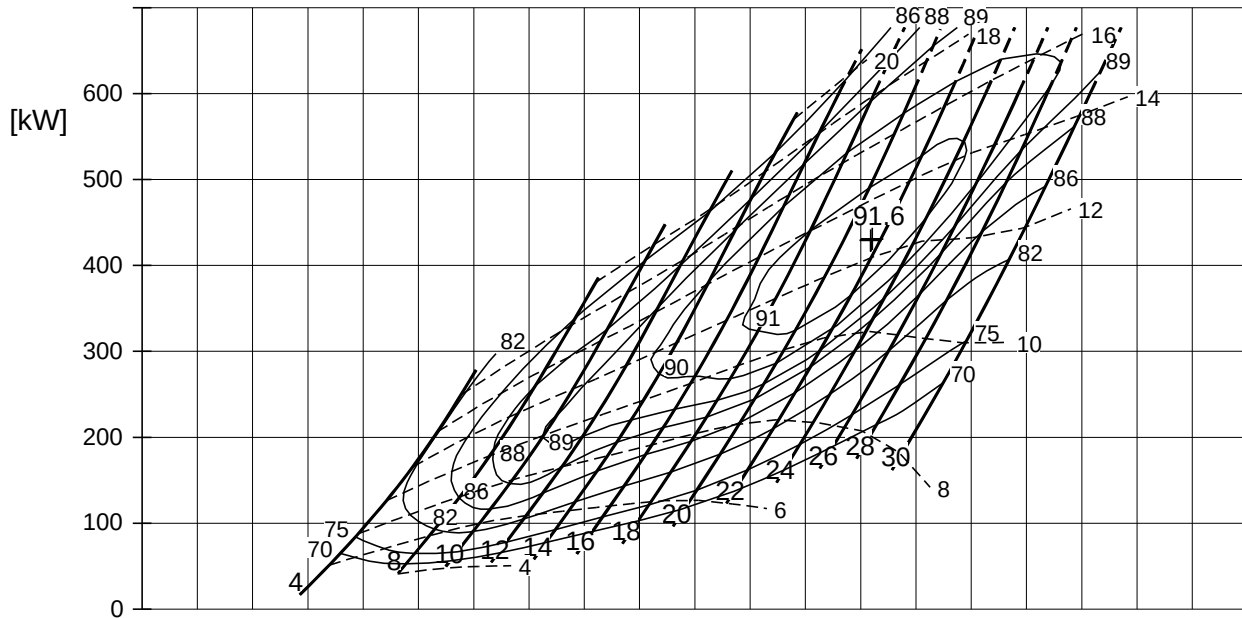
360-13

1: 1.674

97.9% - 97.6%

POWER (SHAFT)

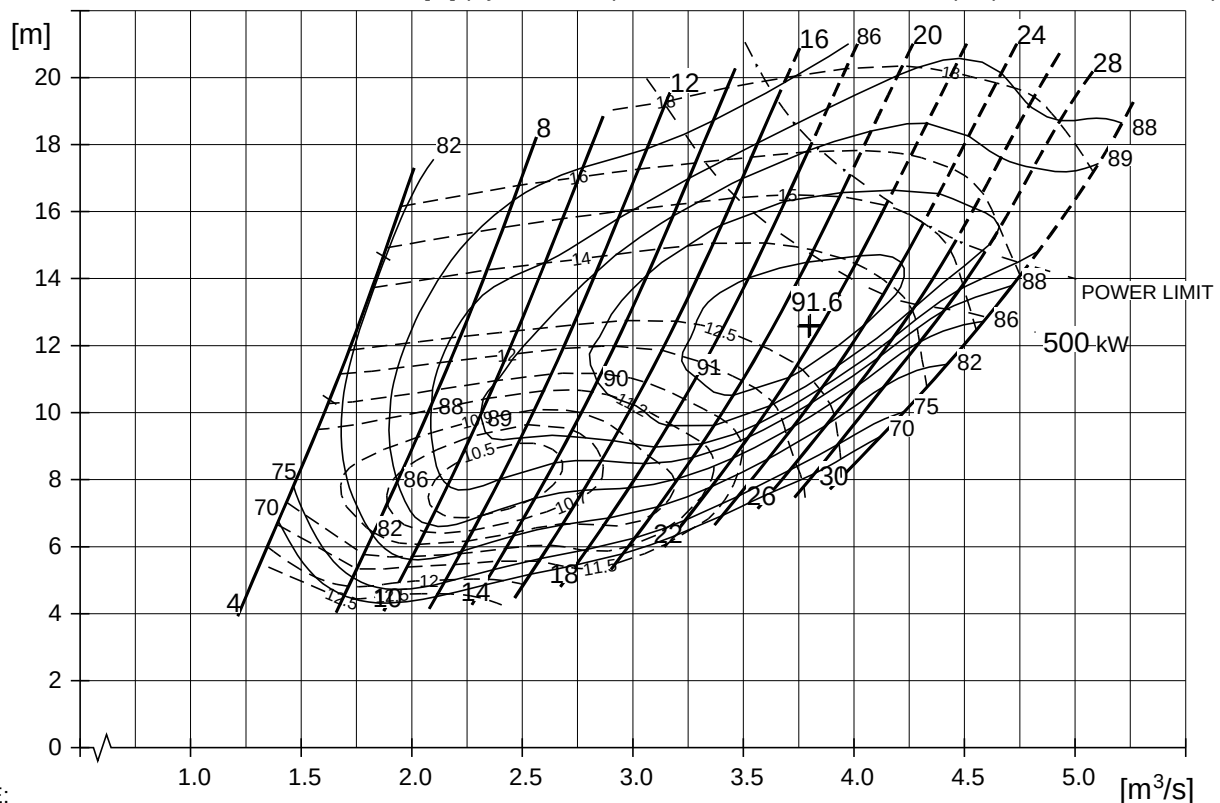
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

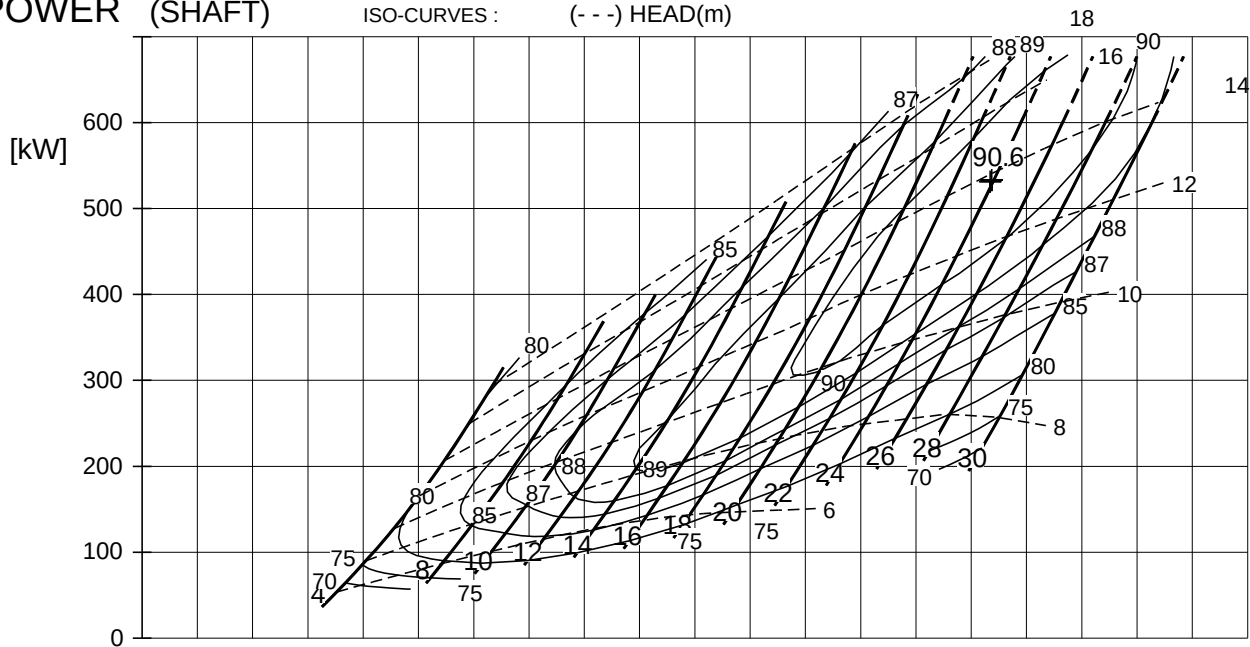
CURVE NO

53- 603 C4E

DATE 2016-02-10	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 603 RPM			
IMPELLER/HUB DIAMETER 850 / 400 mm	GUIDE VANE(S) 63 deg		NO. OF BLADES 4	AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 30 deg		
DRIVE UNIT 935	GENERATOR 66-66-6AA	POLES 6	GEN. POWER 500 kW	GEAR TYPE 360-13	GEAR RATIO 1: 1.674	GEAR EFFICIENCY (Load:1/1-3/4) 97.8% - 97.5%
935	66-76-6AA	6	600	360-13	1: 1.674	97.9% - 97.6%

POWER (SHAFT)

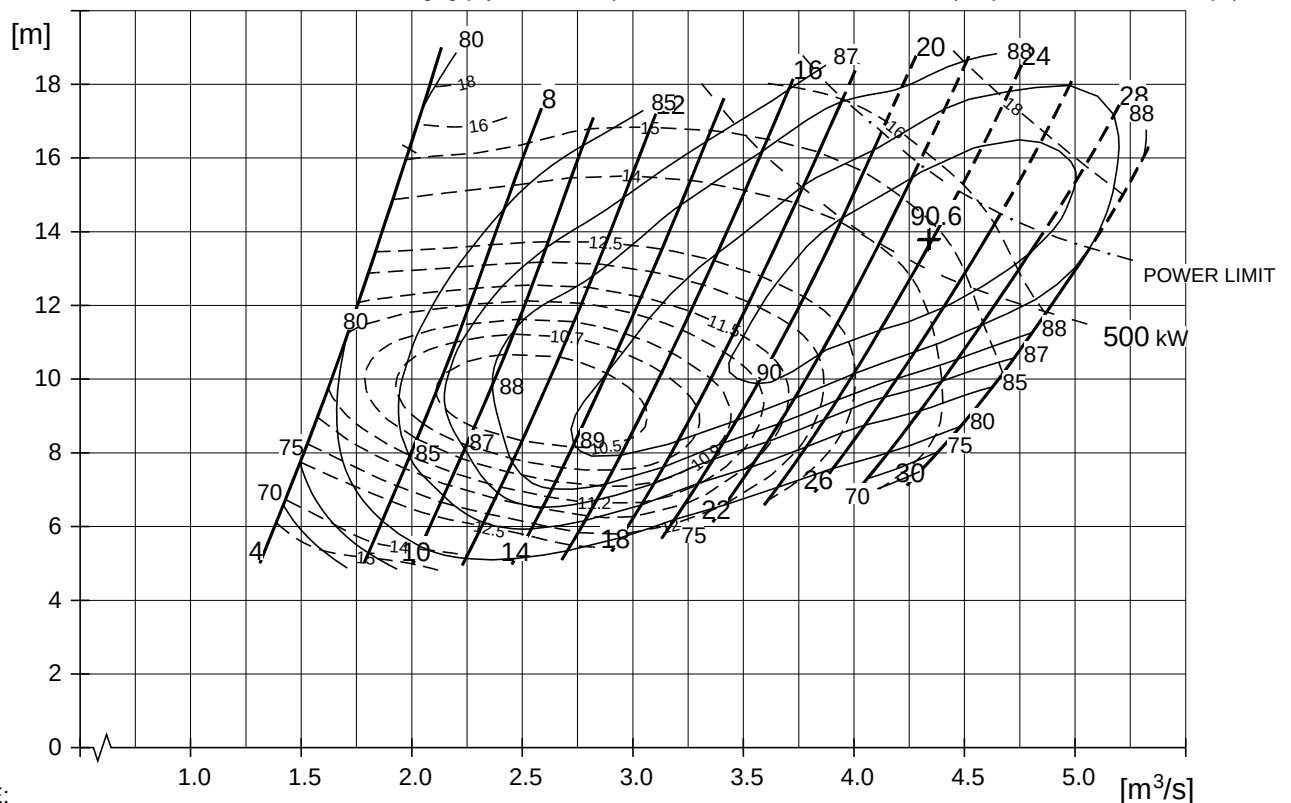
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

53- 603 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
603 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 degDRIVE UNIT
935GENERATOR
66-66-6AAPOLES
6GEN. POWER
500 kWGEAR TYPE
360-13GEAR RATIO
1: 1.674GEAR EFFICIENCY (Load:1/1-3/4)
97.8% - 97.5%

935

66-76-6AA

6

600

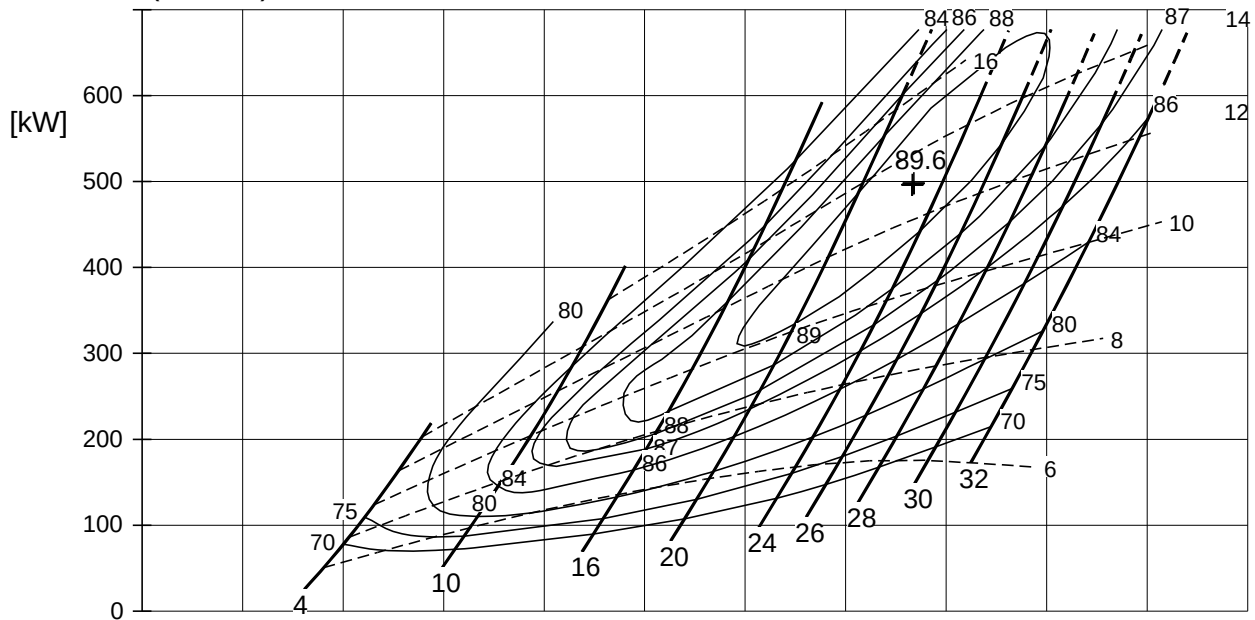
360-13

1: 1.674

97.9% - 97.6%

POWER (SHAFT)

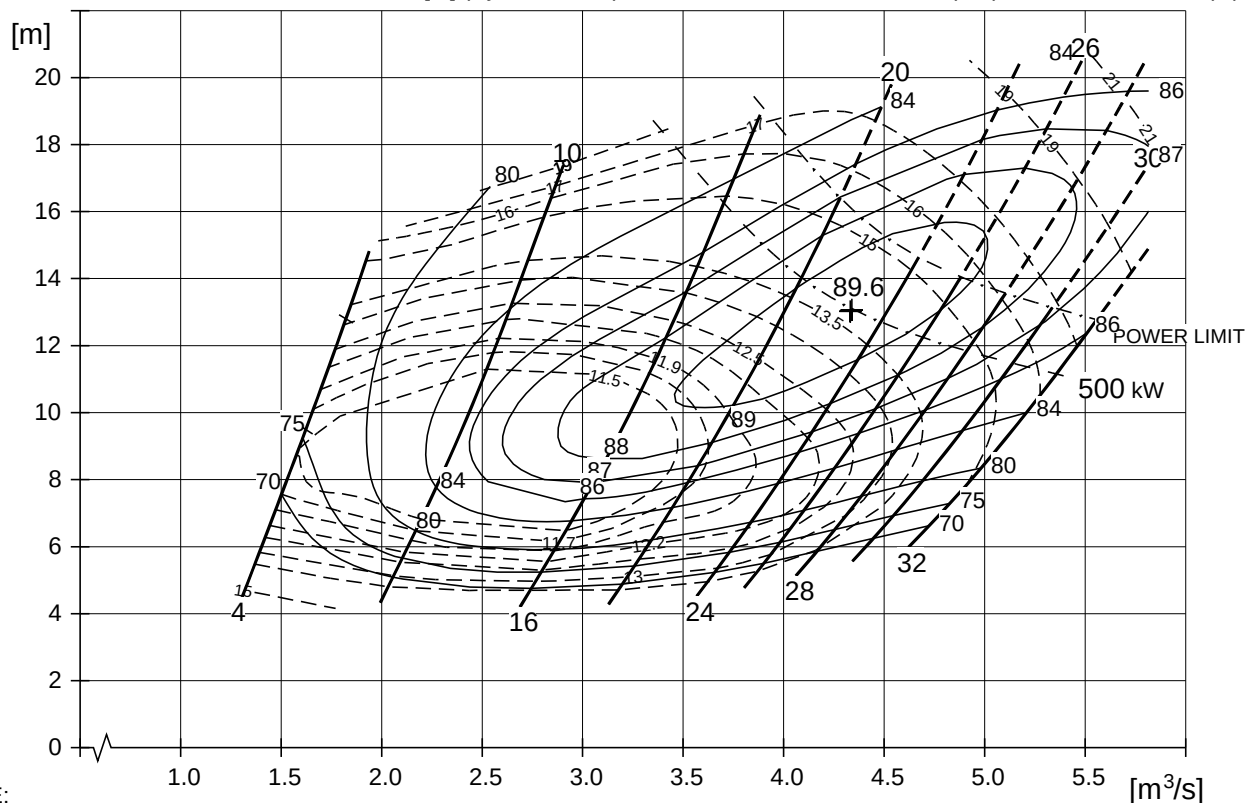
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

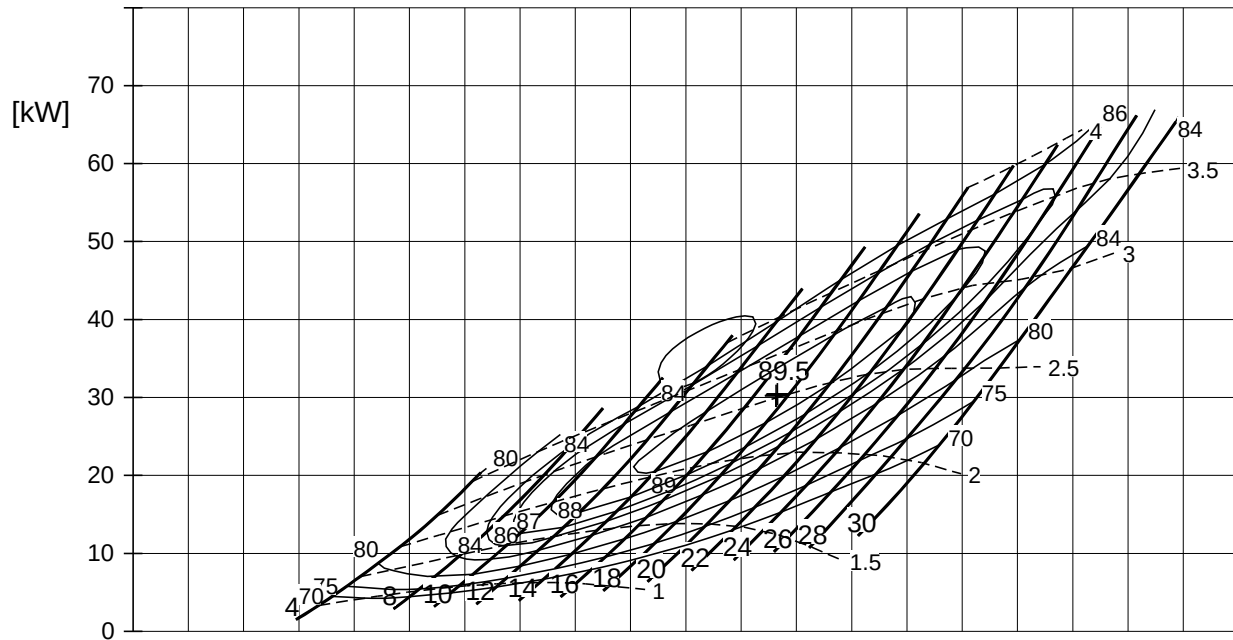
EL 7585

CURVE NO

53- 253C4EDATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
253 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** degDRIVE UNIT
705GENERATOR
43-30-4AAPOLES
4GEN. POWER
135 kWGEAR TYPE
350-12GEAR RATIO
1: 6.000GEAR EFFICIENCY (Load:1/1-3/4)
94.7% - 93.5%

POWER (SHAFT)

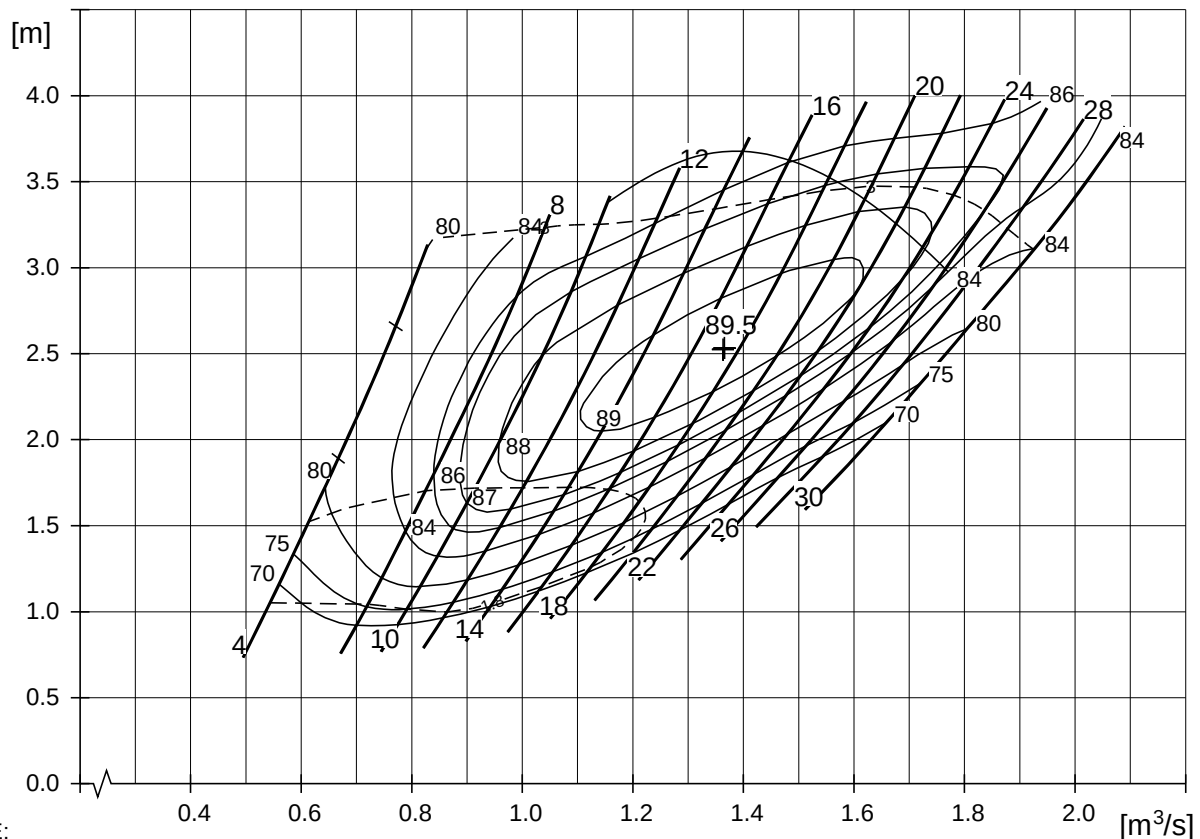
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

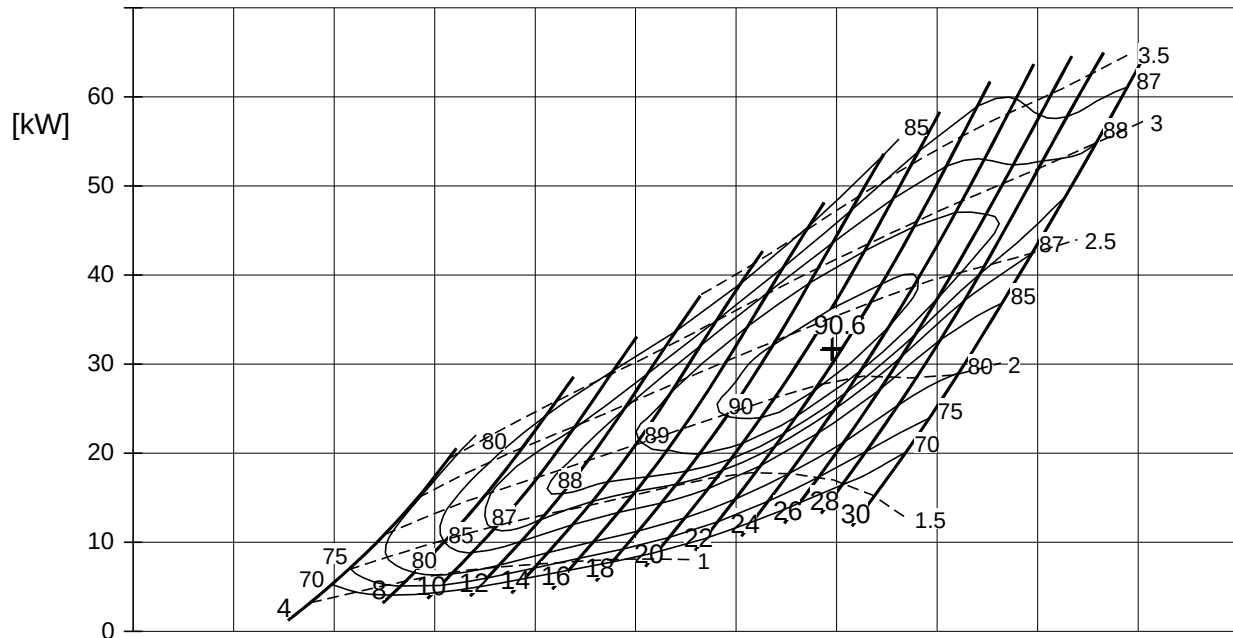
CURVE NO

53- 253C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
253 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
705GENERATOR
43-30-4AAPOLES
4GEN. POWER
135 kWGEAR TYPE
350-12GEAR RATIO
1: 6.000GEAR EFFICIENCY (Load:1/1-3/4)
94.7% - 93.5%

POWER (SHAFT)

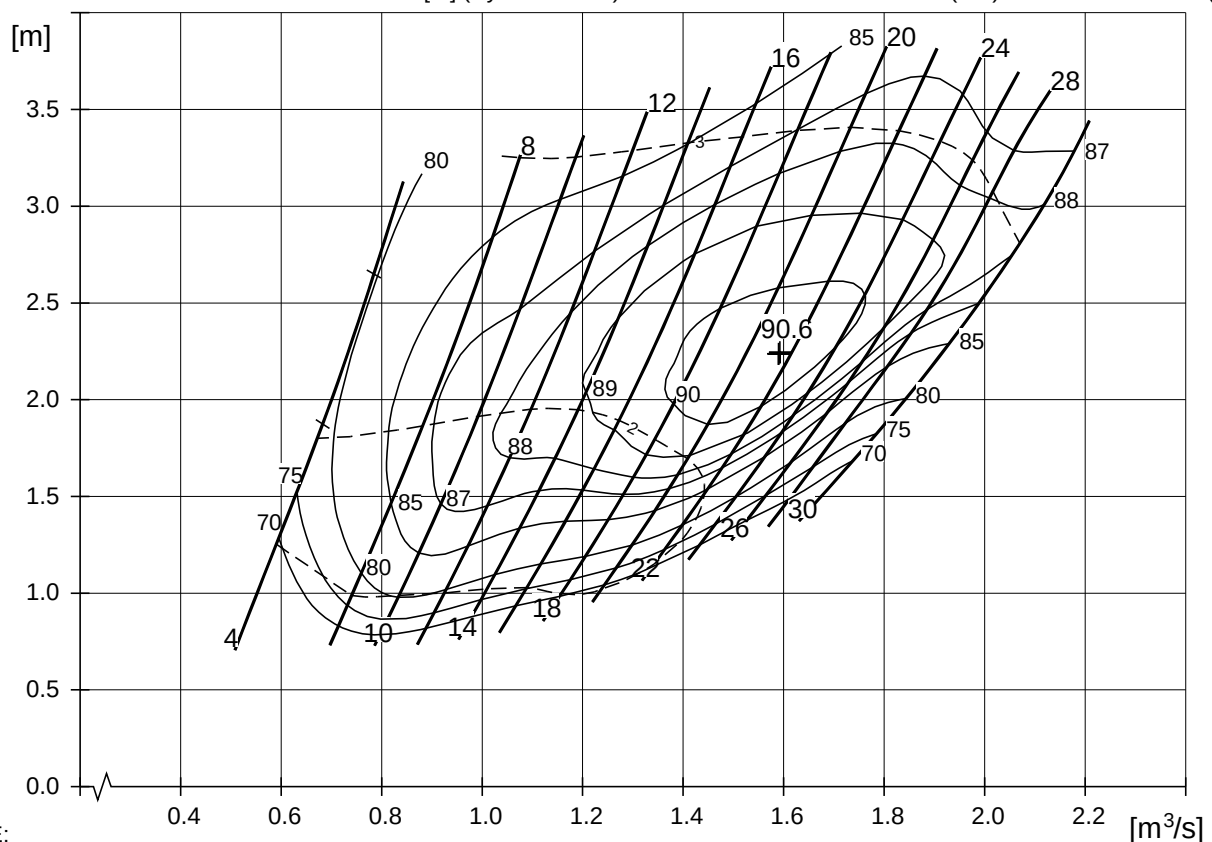
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

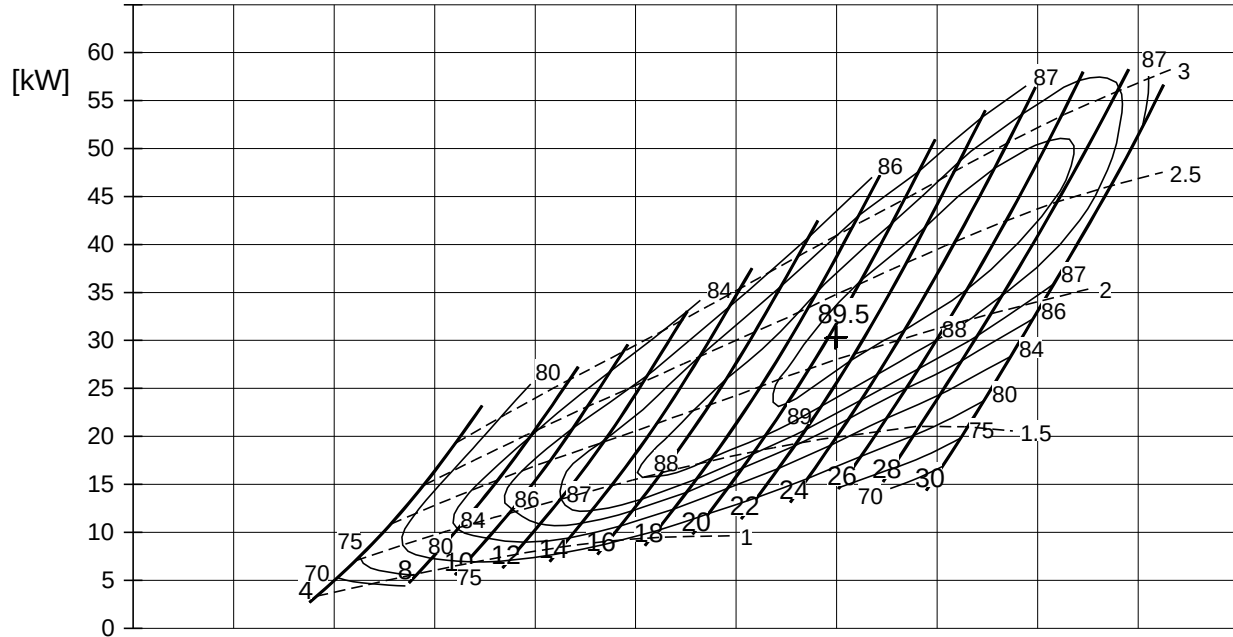
EL 7585

CURVE NO

53- 253C4EDATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
253 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** degDRIVE UNIT
705GENERATOR
43-30-4AAPOLES
4GEN. POWER
135 kWGEAR TYPE
350-12GEAR RATIO
1: 6.000GEAR EFFICIENCY (Load:1/1-3/4)
94.7% - 93.5%

POWER (SHAFT)

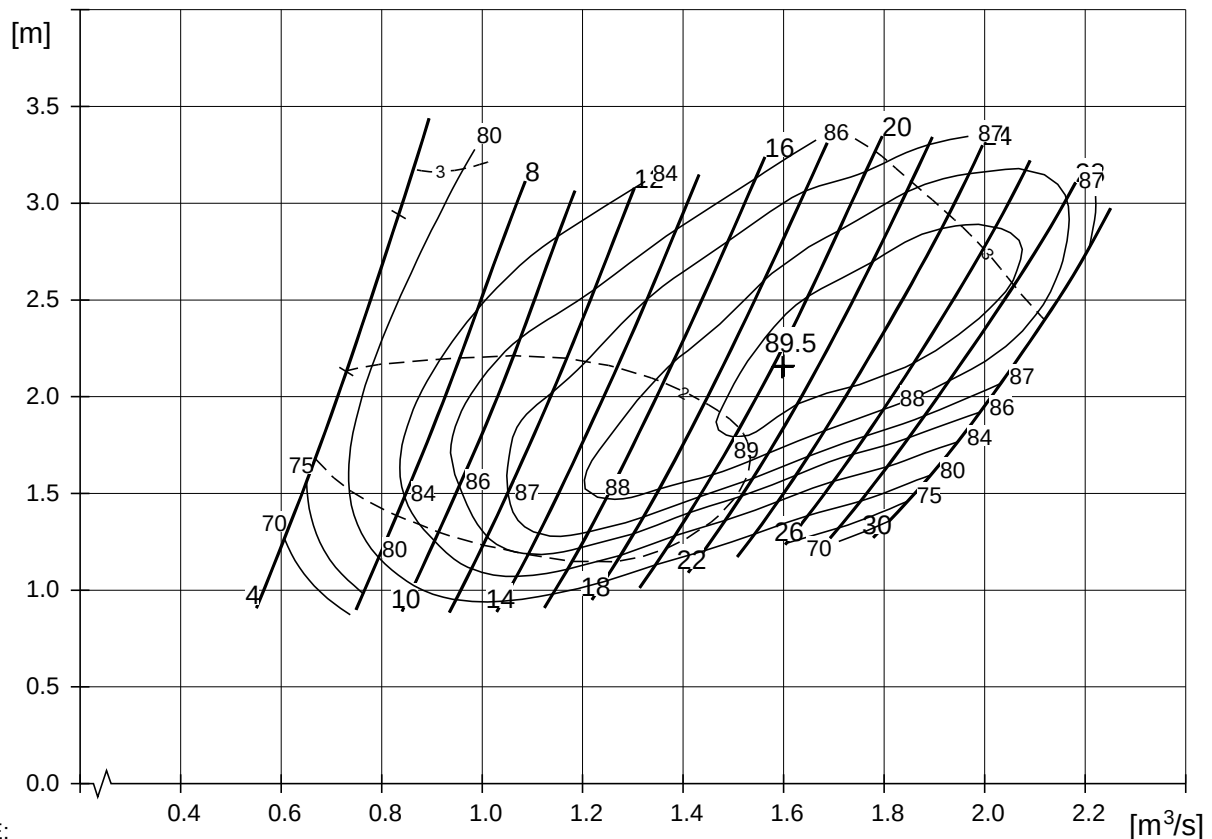
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

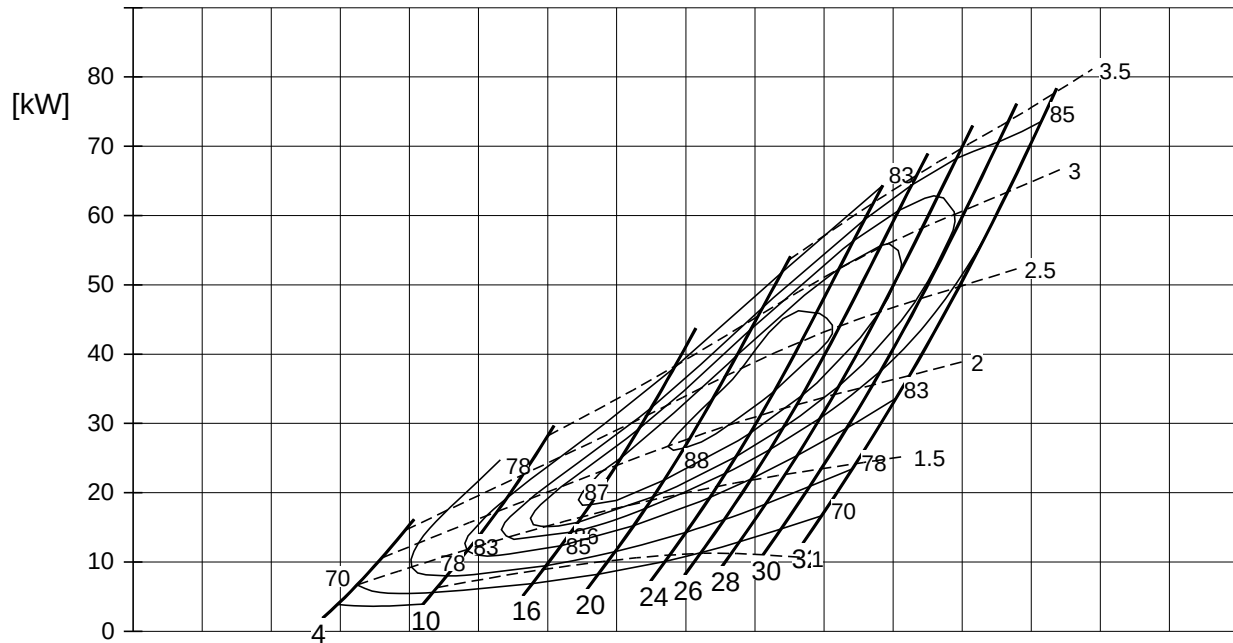
CURVE NO

53- 253C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
253 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 degDRIVE UNIT
705GENERATOR
43-30-4AAPOLES
4GEN. POWER
135 kWGEAR TYPE
350-12GEAR RATIO
1: 6.000GEAR EFFICIENCY (Load:1/1-3/4)
94.7% - 93.5%

POWER (SHAFT)

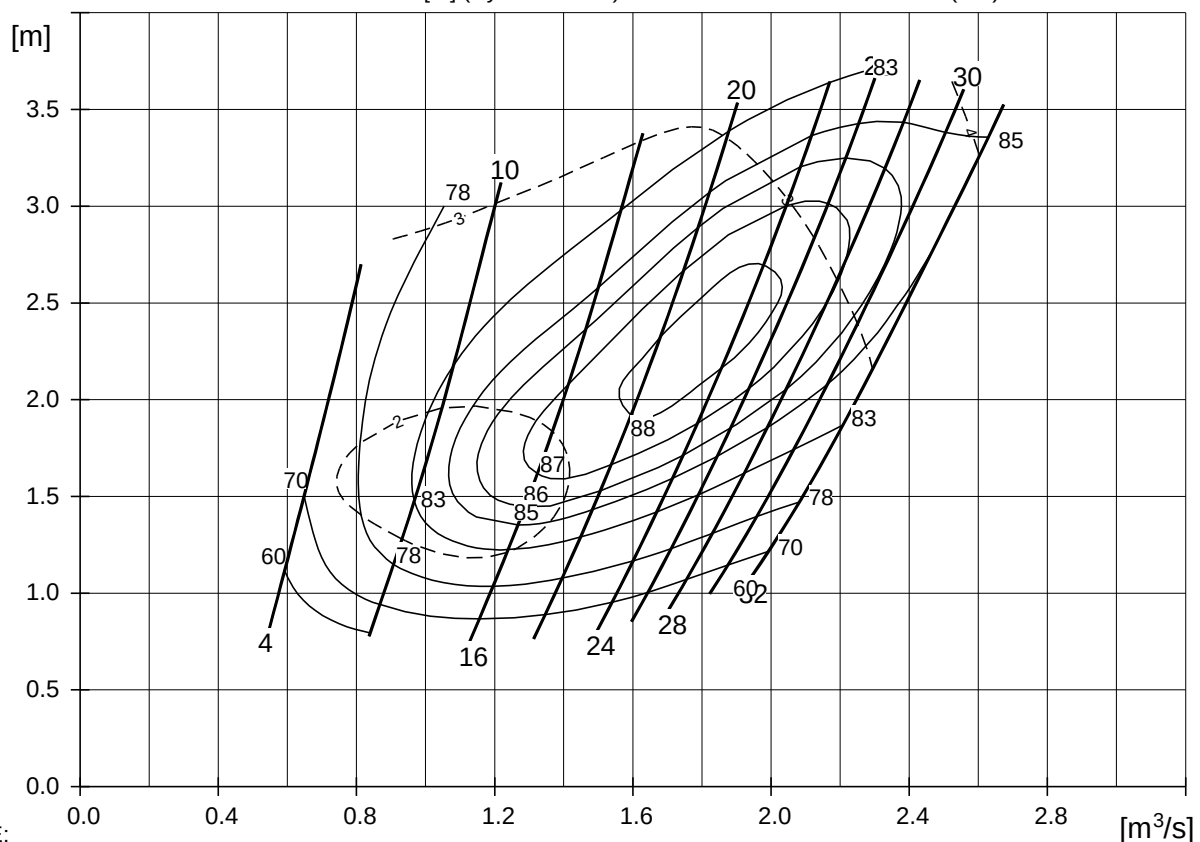
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

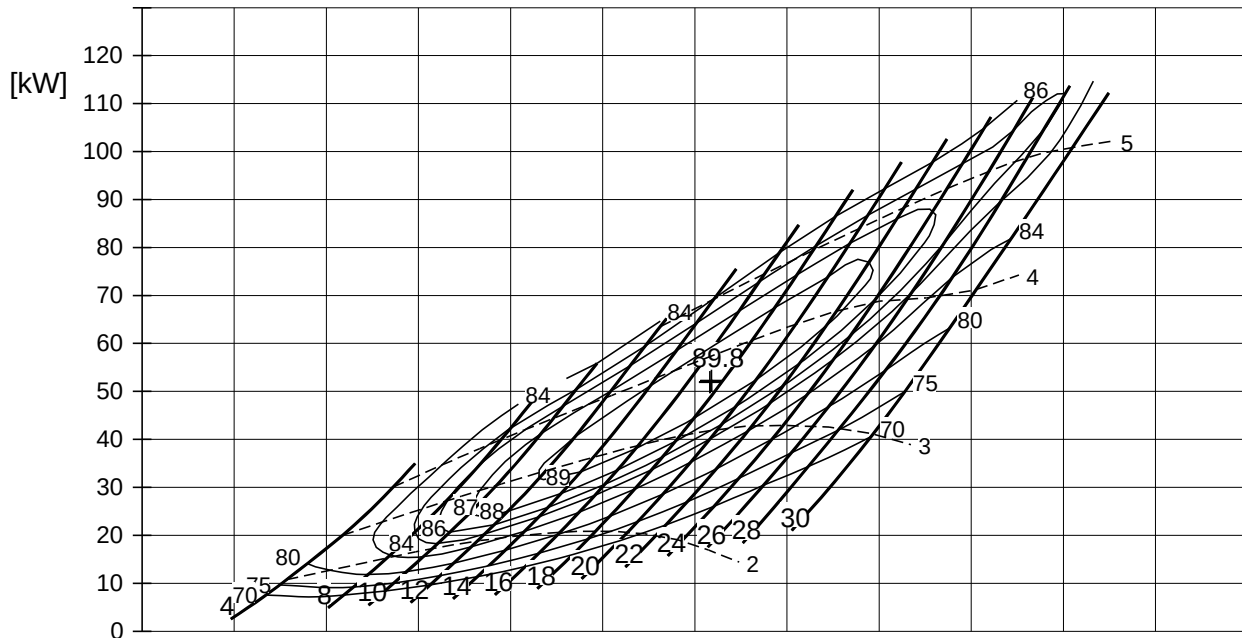
CURVE NO

53- 303 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
303 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
705GENERATOR
43-30-4AAPOLES
4GEN. POWER
135 kWGEAR TYPE
350-13GEAR RATIO
1: 5.000GEAR EFFICIENCY (Load:1/1-3/4)
95.8% - 94.8%

POWER (SHAFT)

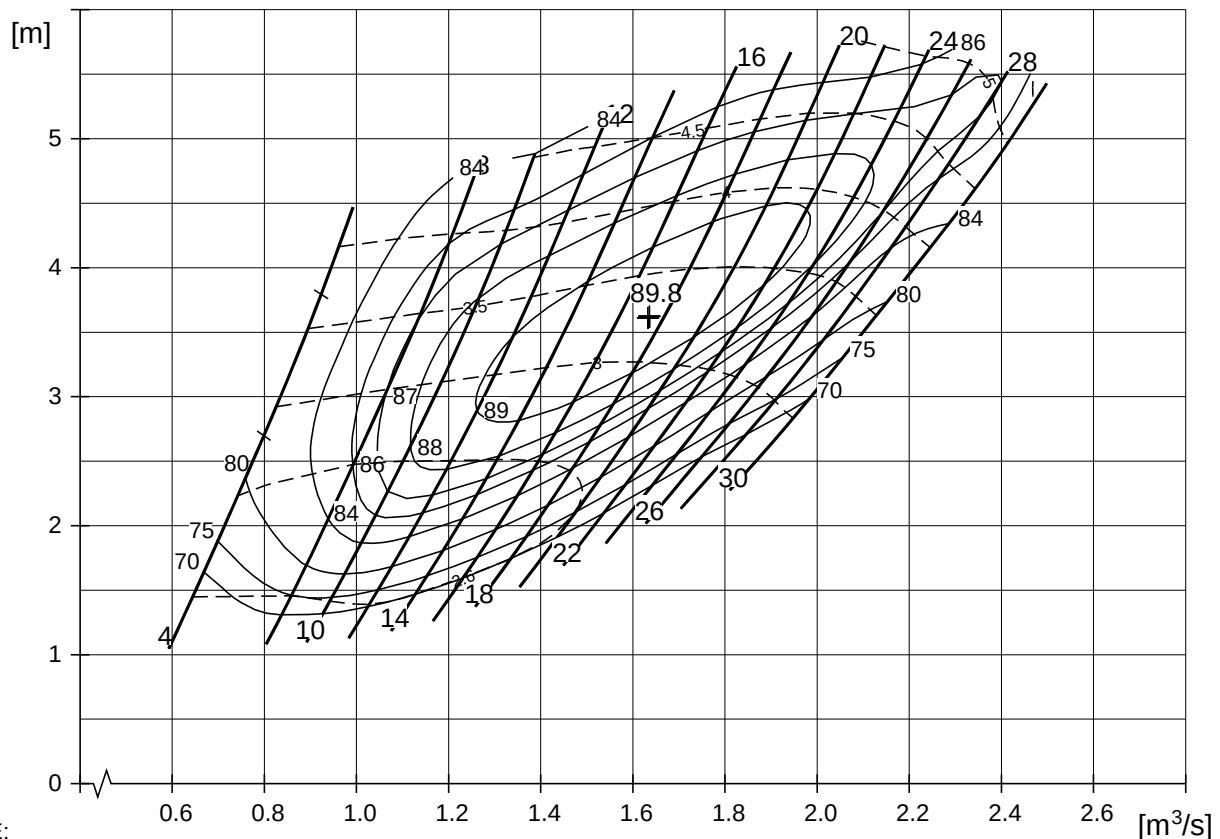
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

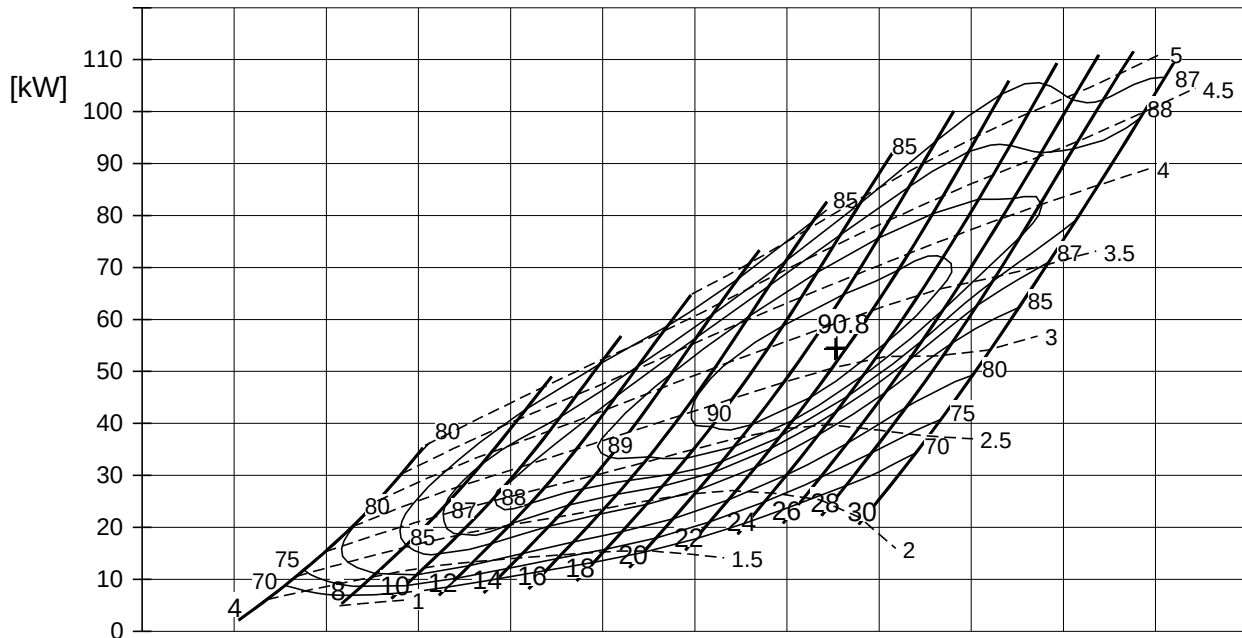
CURVE NO

53- 303 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
303 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
705GENERATOR
43-30-4AAPOLES
4GEN. POWER
135 kWGEAR TYPE
350-13GEAR RATIO
1: 5.000GEAR EFFICIENCY (Load:1/1-3/4)
95.8% - 94.8%

POWER (SHAFT)

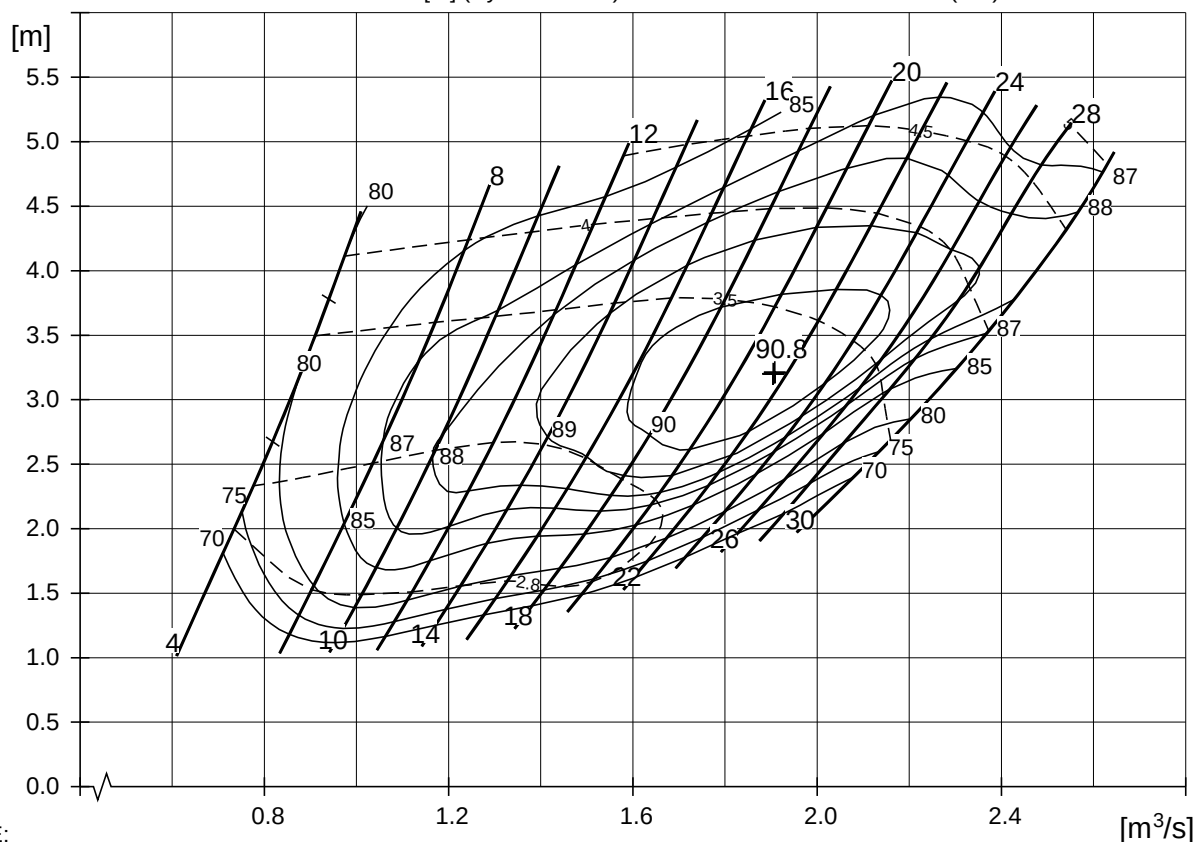
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

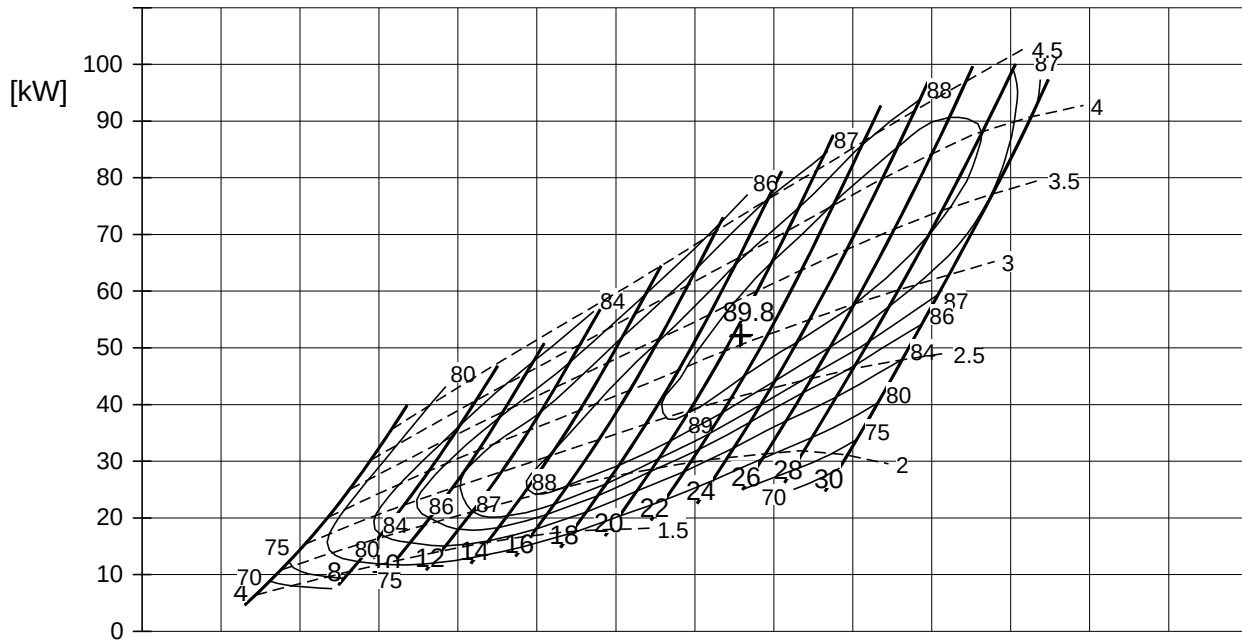
CURVE NO

53- 303 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
303 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
705GENERATOR
43-30-4AAPOLES
4GEN. POWER
135 kWGEAR TYPE
350-13GEAR RATIO
1: 5.000GEAR EFFICIENCY (Load:1/1-3/4)
95.8% - 94.8%

POWER (SHAFT)

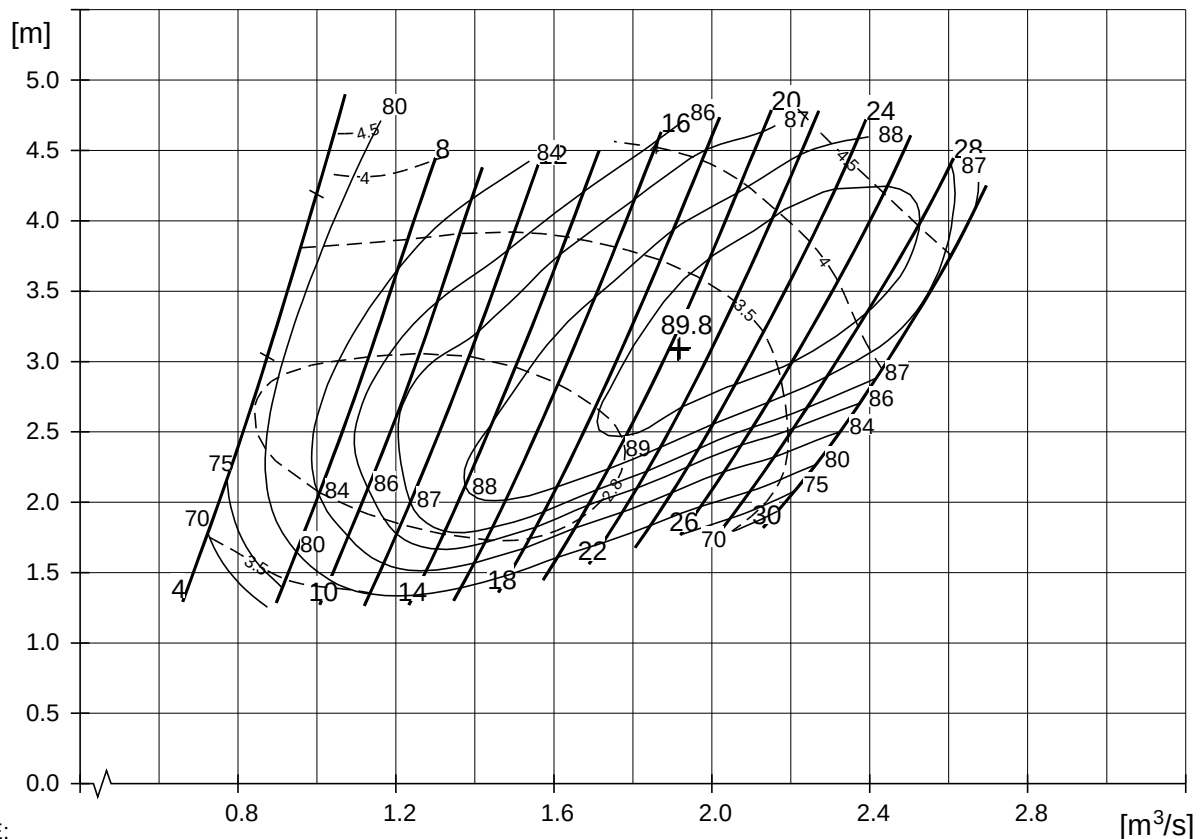
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

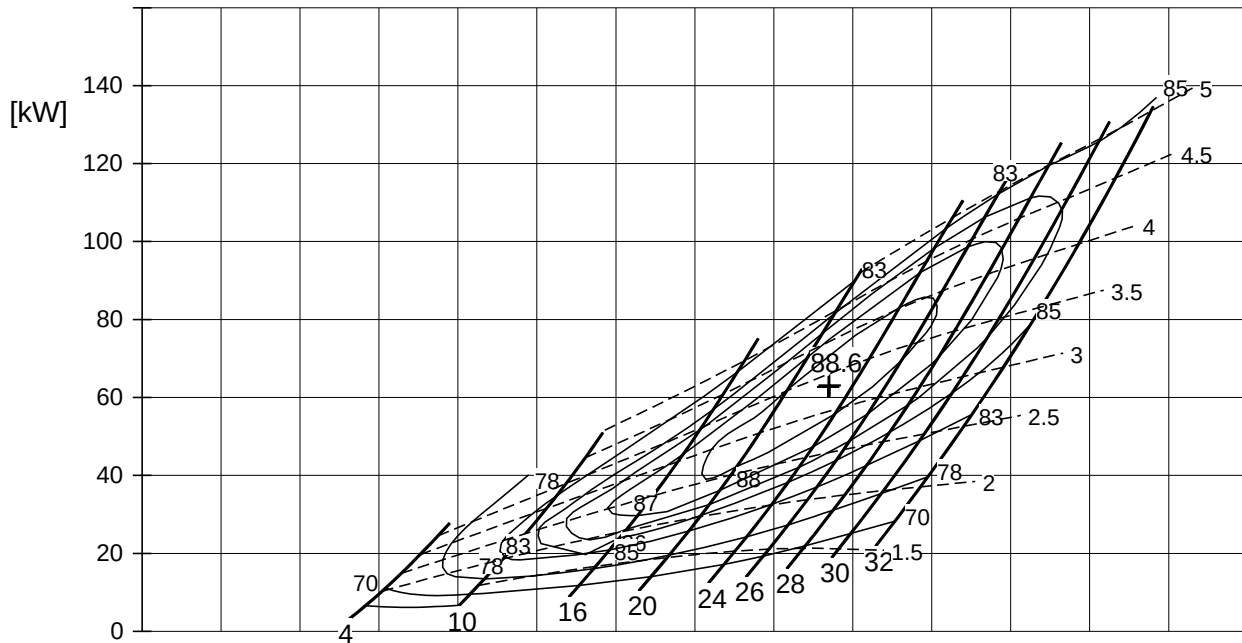
CURVE NO

53- 303 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
303 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 degDRIVE UNIT
705GENERATOR
43-30-4AAPOLES
4GEN. POWER
135 kWGEAR TYPE
350-13GEAR RATIO
1: 5.000GEAR EFFICIENCY (Load:1/1-3/4)
95.8% - 94.8%

POWER (SHAFT)

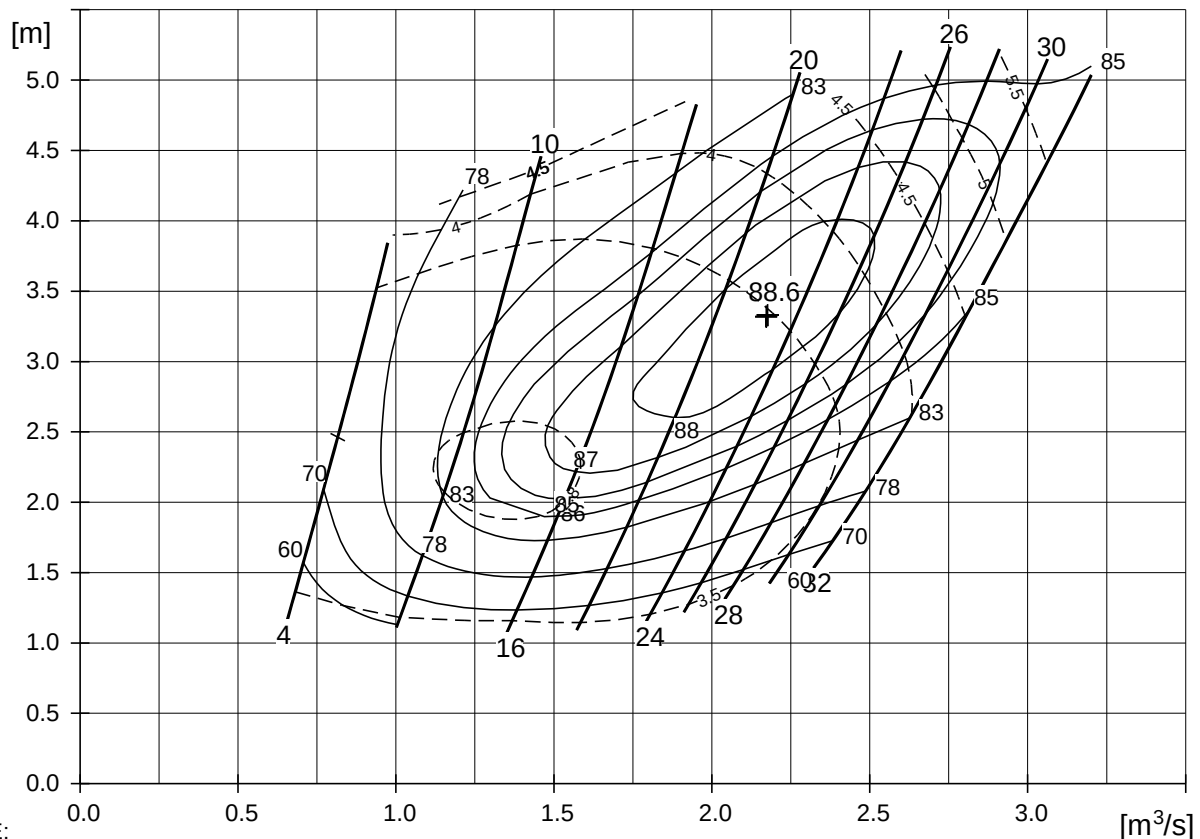
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

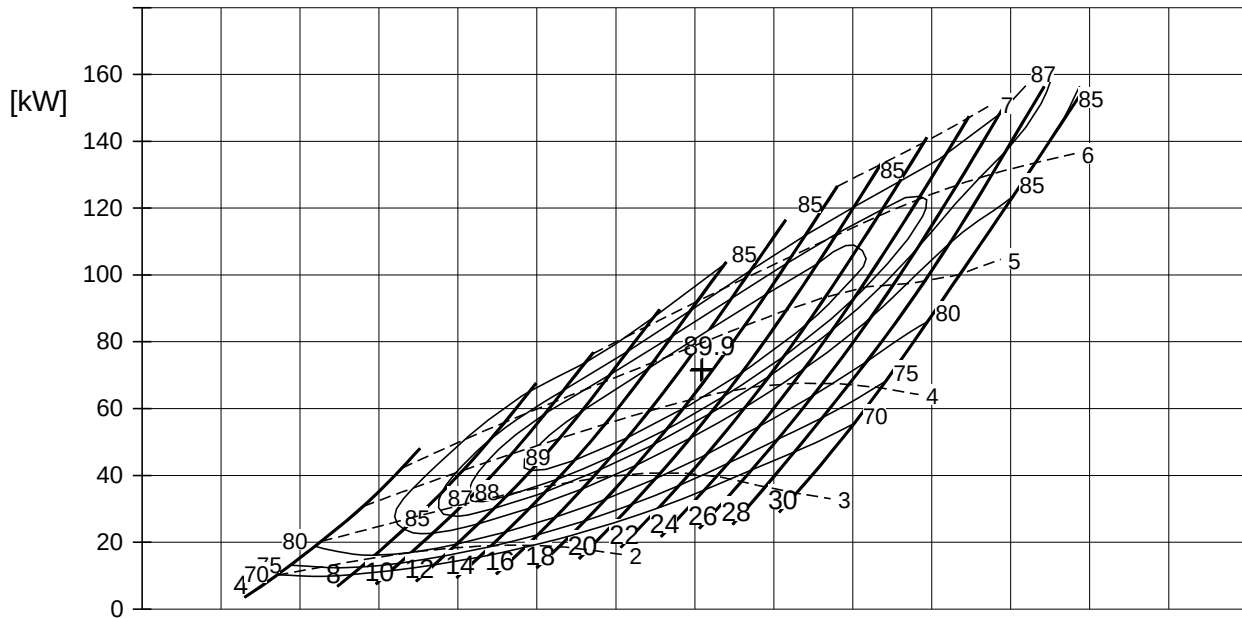
CURVE NO

53- 337 C4E

DATE 2016-02-10	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 337 RPM			
IMPELLER/HUB DIAMETER 850 / 400 mm	GUIDE VANE(S) 50 deg		NO. OF BLADES 4	AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 30 deg		
DRIVE UNIT 705	GENERATOR 43-30-4AA	POLES 4	GEN. POWER 135 kW	GEAR TYPE 350-13	GEAR RATIO 1: 4.500	GEAR EFFICIENCY (Load:1/1-3/4) 95.5% - 94.5%
735	43-44-4AA	4	190	350-13	1: 4.500	96.4% - 95.6%

POWER (SHAFT)

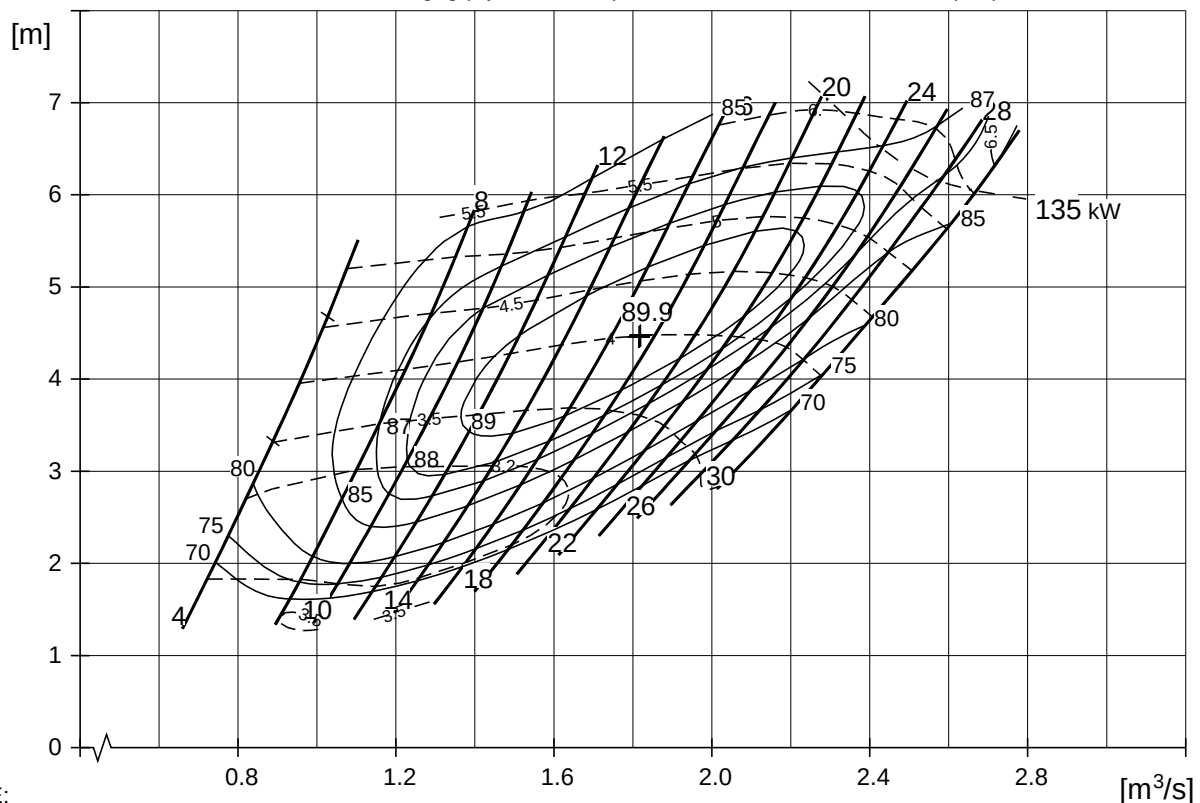
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

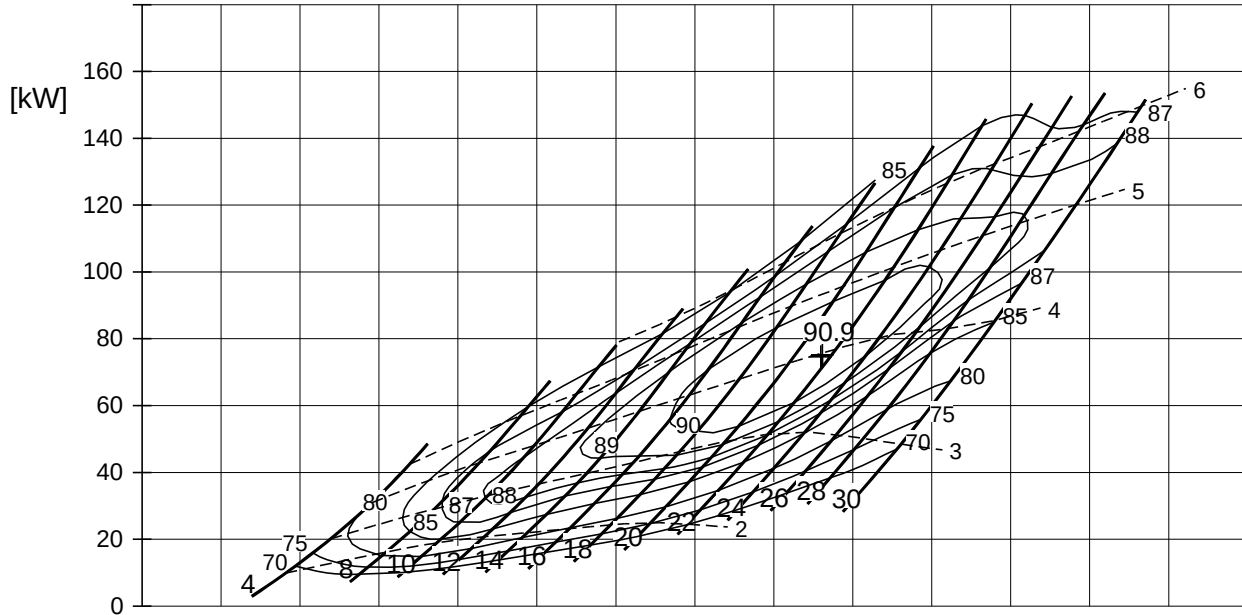
CURVE NO

53- 337 C4E

DATE 2016-02-10	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 337 RPM	
IMPELLER/HUB DIAMETER 850 / 400 mm	GUIDE VANE(S) 57 deg	NO. OF BLADES 4	AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 30 deg	
DRIVE UNIT 705	GENERATOR 43-30-4AA	POLES 4	GEN. POWER 135 kW	GEAR TYPE 350-13
735	43-44-4AA	4	190	GEAR RATIO 1: 4.500
				GEAR EFFICIENCY (Load:1/1-3/4) 95.5% - 94.5%
				96.4% - 95.6%

POWER (SHAFT)

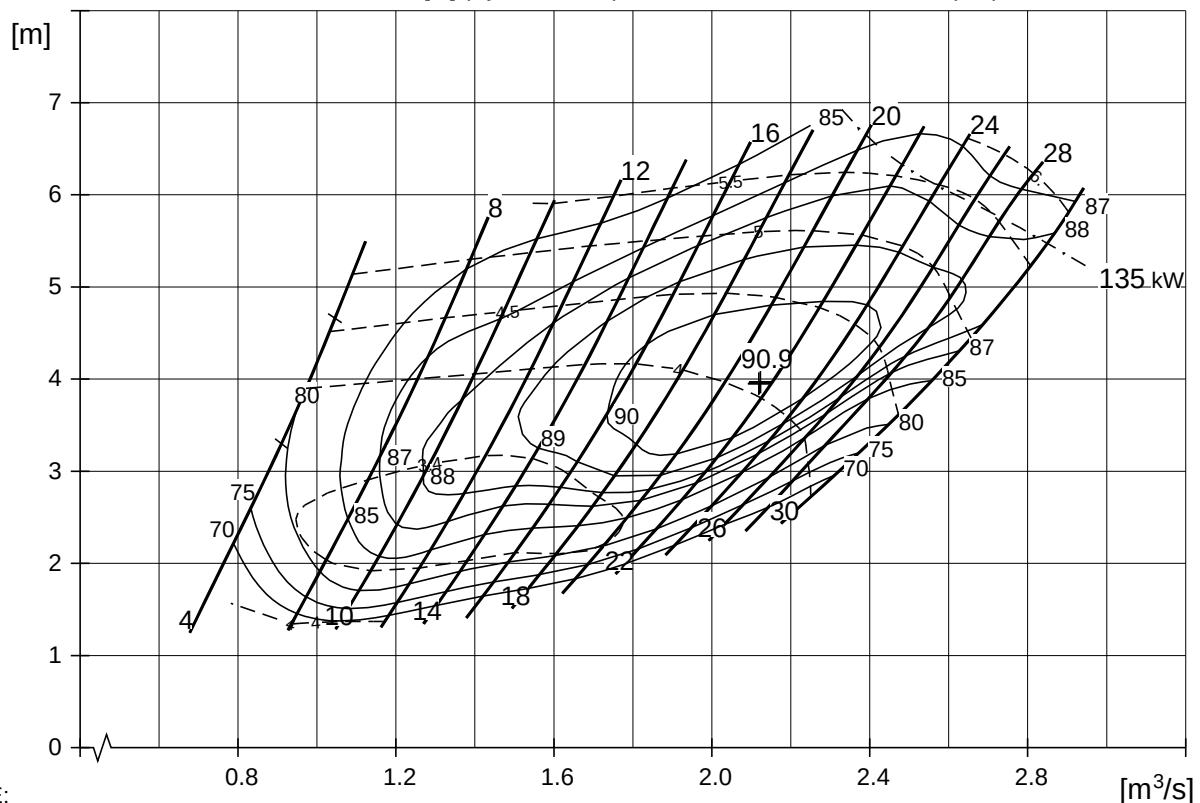
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

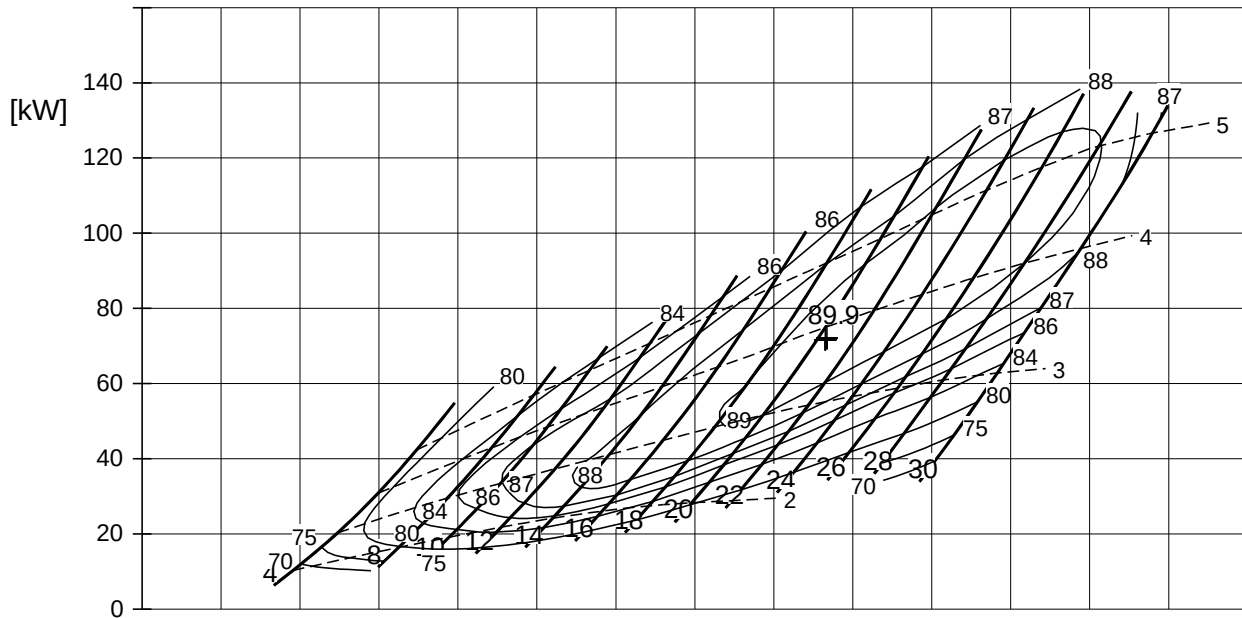
CURVE NO

53- 337 C4E

DATE 2016-02-10	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 337 RPM			
IMPELLER/HUB DIAMETER 850 / 400 mm	GUIDE VANE(S) 63 deg		NO. OF BLADES 4	AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 30 deg		
DRIVE UNIT 705	GENERATOR 43-30-4AA	POLES 4	GEN. POWER 135 kW	GEAR TYPE 350-13	GEAR RATIO 1: 4.500	GEAR EFFICIENCY (Load:1/1-3/4) 95.5% - 94.5%
735	43-44-4AA	4	190	350-13	1: 4.500	96.4% - 95.6%

POWER (SHAFT)

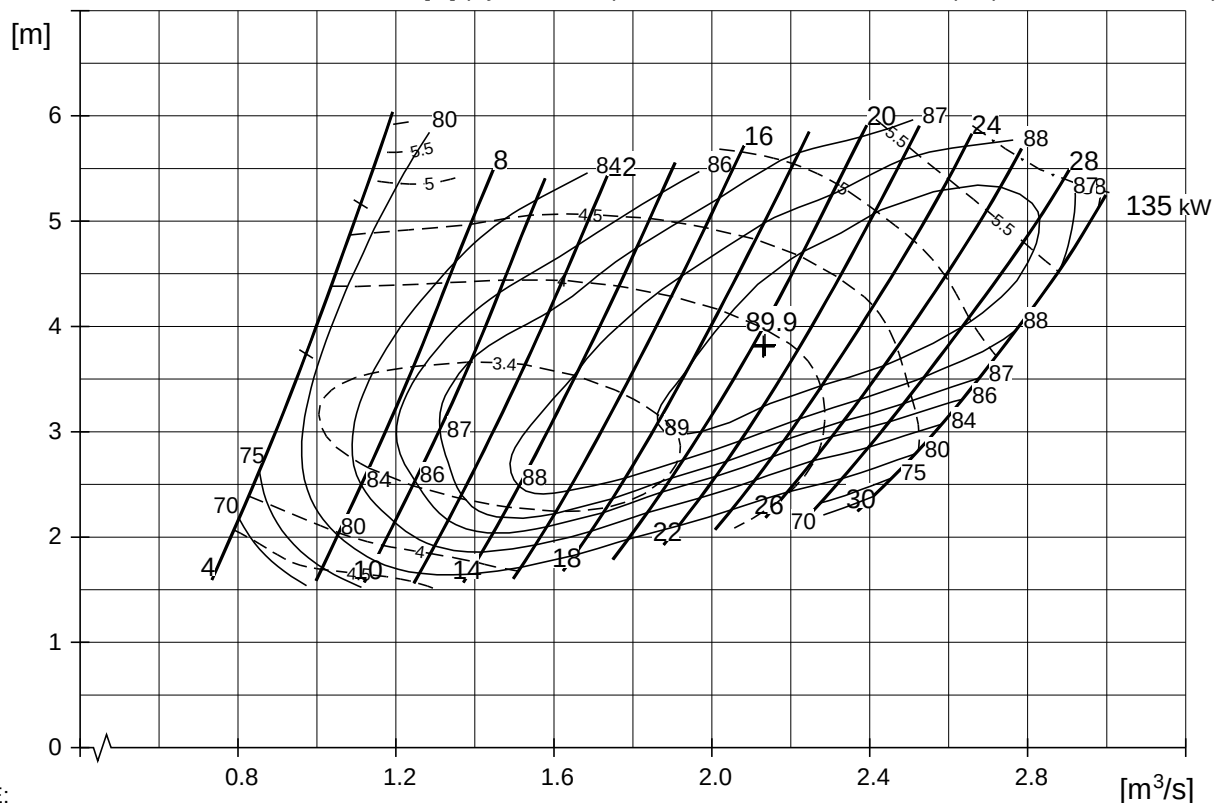
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

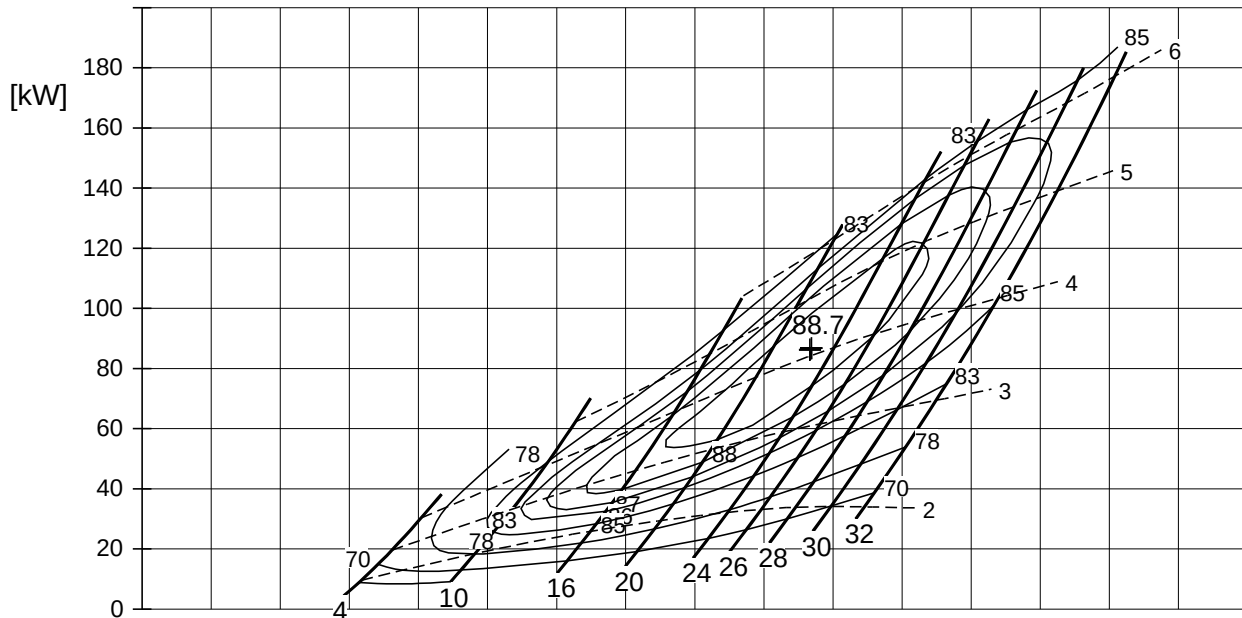
CURVE NO

53- 337 C4E

DATE 2016-02-10	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 337 RPM	
IMPELLER/HUB DIAMETER 850 / 400 mm	GUIDE VANE(S) 70 deg	NO. OF BLADES 4	AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 32 deg	
DRIVE UNIT 705	GENERATOR 43-30-4AA	POLES 4	GEN. POWER 135 kW	GEAR TYPE 350-13
735	43-44-4AA	4	190	GEAR RATIO 1: 4.500
				GEAR EFFICIENCY (Load:1/1-3/4) 95.5% - 94.5%
				96.4% - 95.6%

POWER (SHAFT)

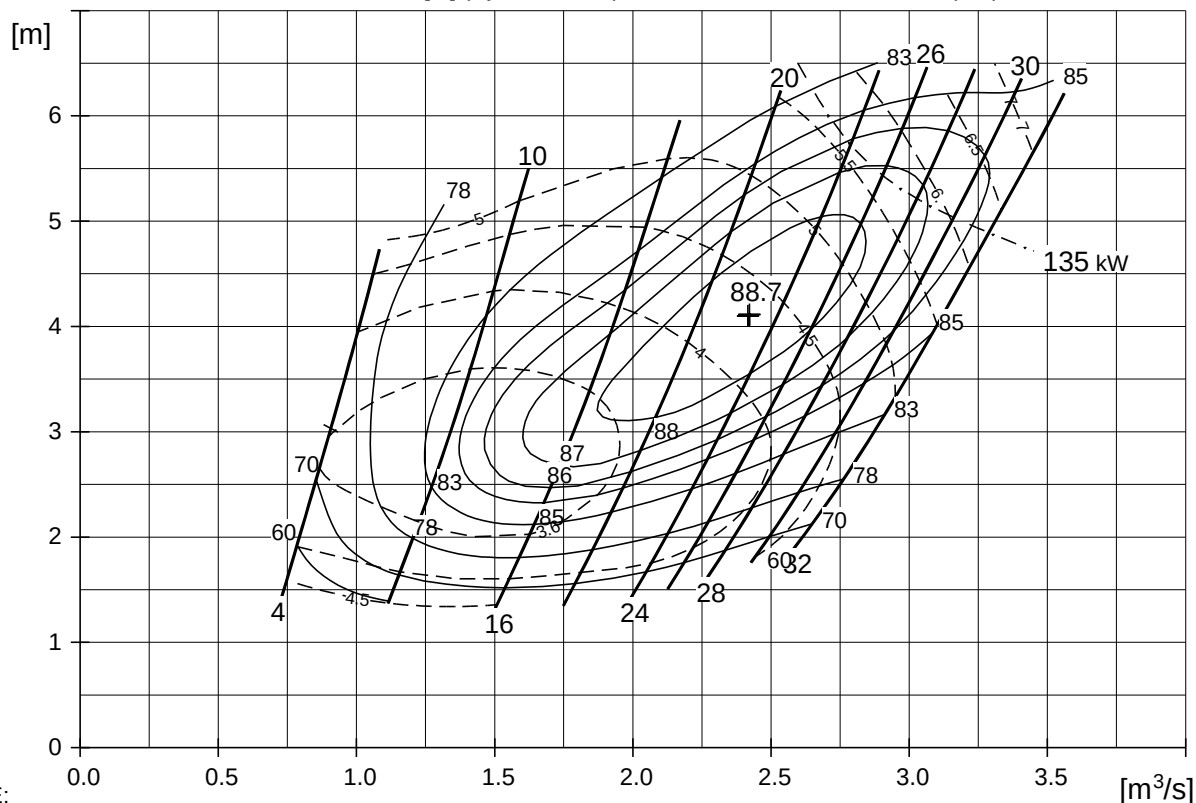
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES : TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

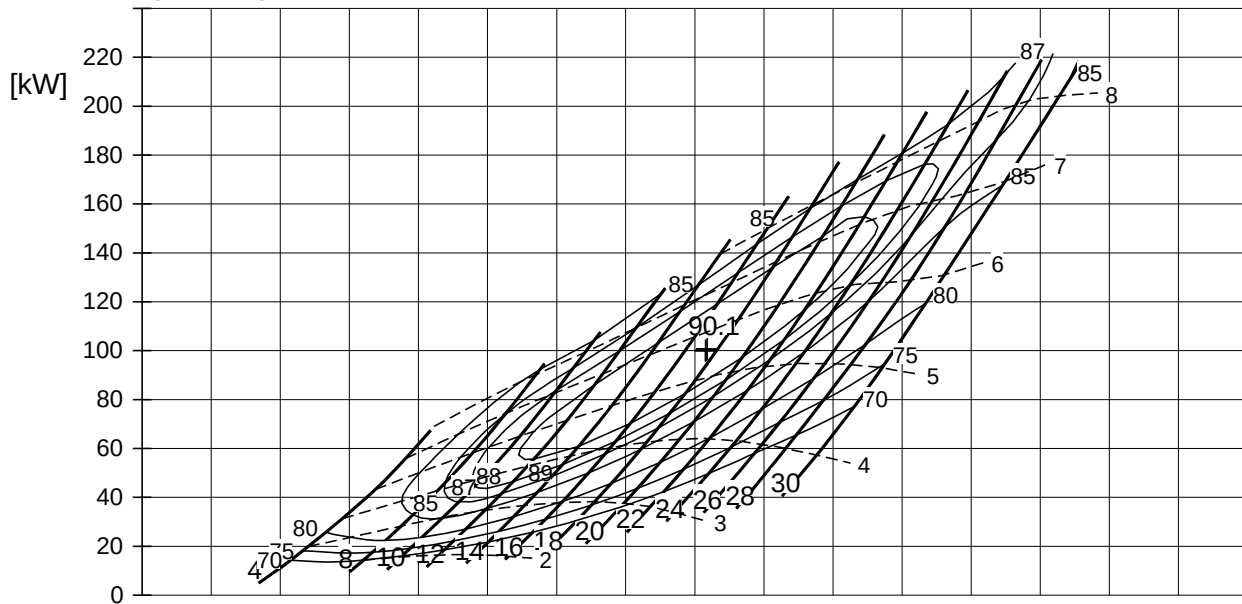
CURVE NO

53- 377 C4E

DATE 2016-02-10	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 377 RPM			
IMPELLER/HUB DIAMETER 850 / 400 mm	GUIDE VANE(S) 50 deg		NO. OF BLADES 4	AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 30 deg		
DRIVE UNIT 705	GENERATOR 43-30-4AA	POLES 4	GEN. POWER 135 kW	GEAR TYPE 350-13	GEAR RATIO 1: 4.034	GEAR EFFICIENCY (Load:1/1-3/4) 95.2% - 94.1%
735	43-44-4AA	4	190	350-13	1: 4.034	96.2% - 95.3%
765	43-56-4AA	4	230	350-13	1: 4.034	96.6% - 95.9%

POWER (SHAFT)

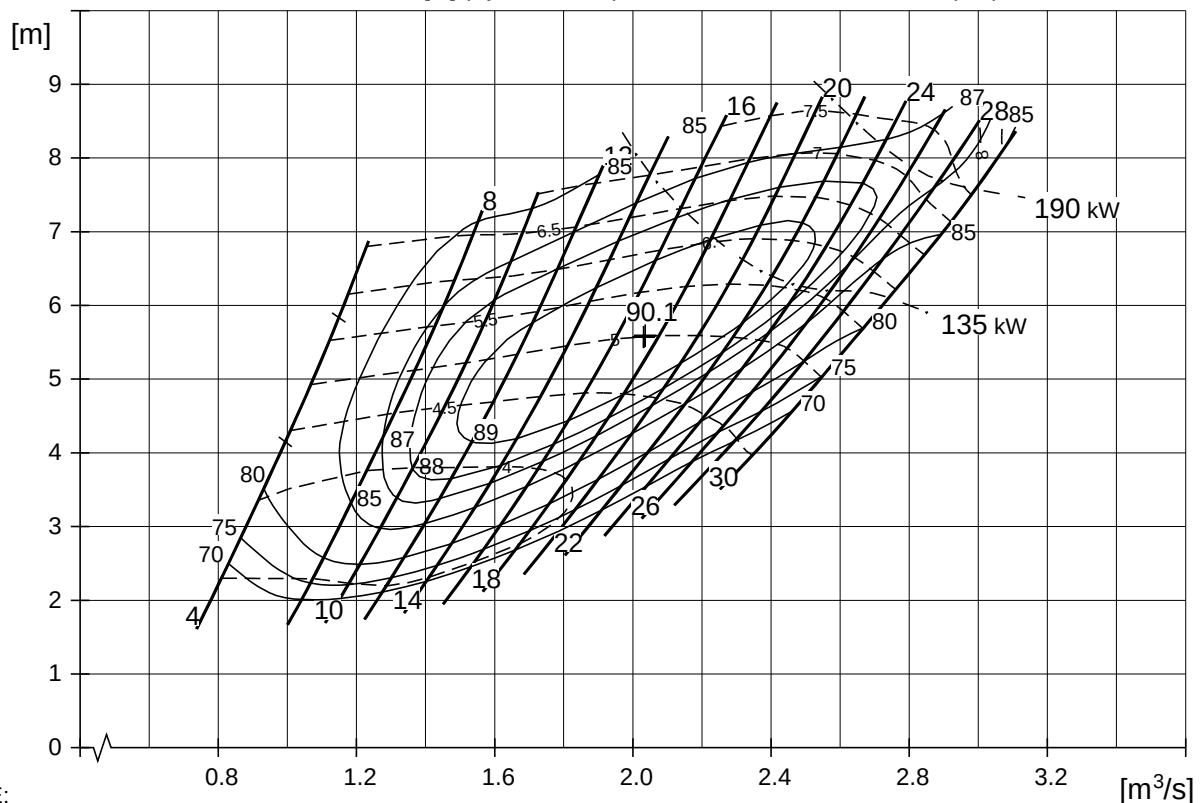
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

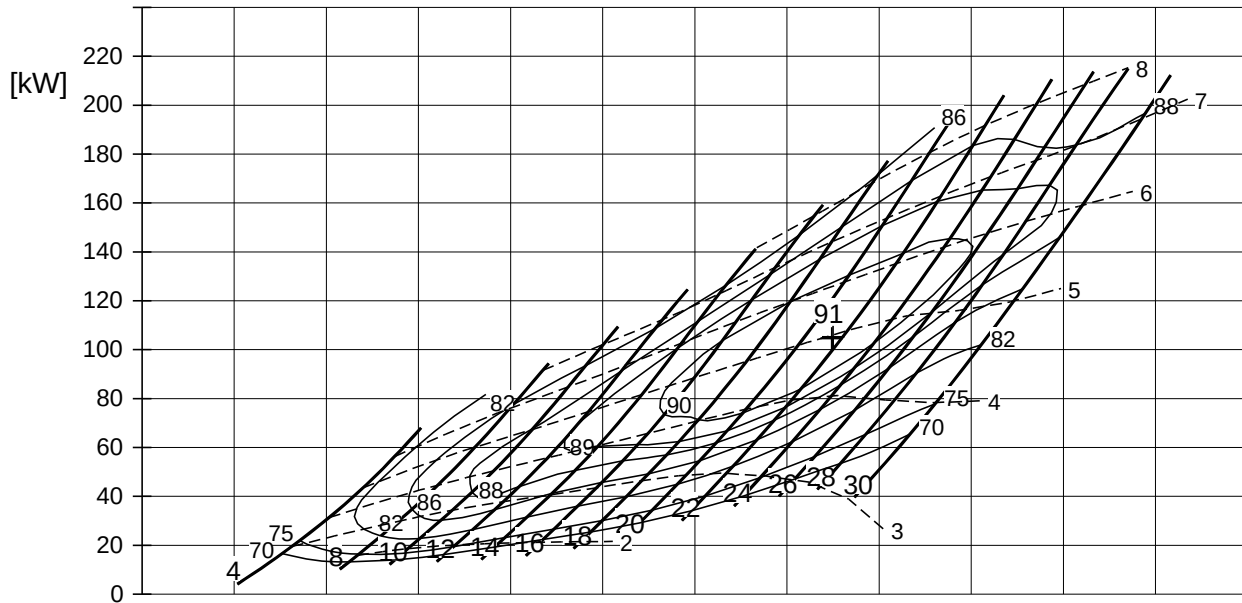
CURVE NO

53- 377 C4E

DATE 2016-02-10	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 377 RPM			
IMPELLER/HUB DIAMETER 850 / 400 mm	GUIDE VANE(S) 57 deg		NO. OF BLADES 4	AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 30 deg		
DRIVE UNIT 705	GENERATOR 43-30-4AA	POLES 4	GEN. POWER 135 kW	GEAR TYPE 350-13	GEAR RATIO 1: 4.034	GEAR EFFICIENCY (Load:1/1-3/4) 95.2% - 94.1%
735	43-44-4AA	4	190	350-13	1: 4.034	96.2% - 95.3%
765	43-56-4AA	4	230	350-13	1: 4.034	96.6% - 95.9%

POWER (SHAFT)

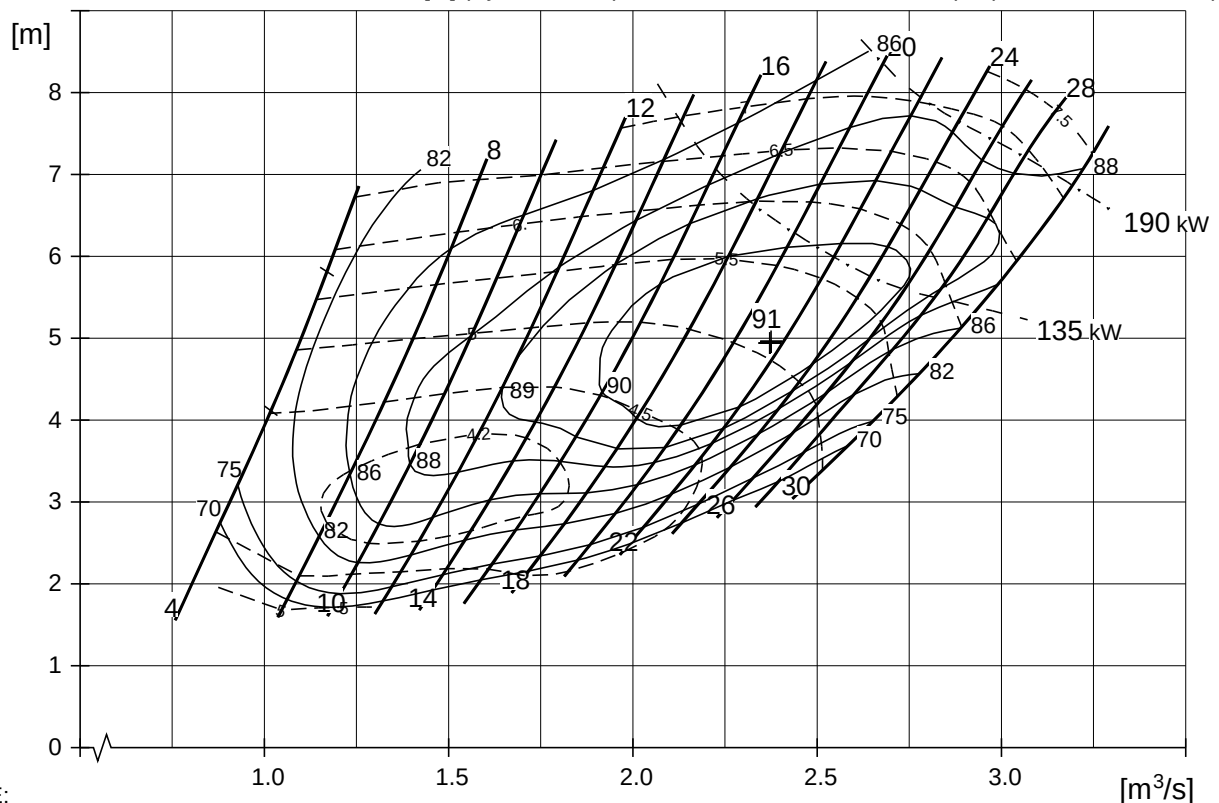
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

53- 377 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
377 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
705GENERATOR
43-30-4AAPOLES
4GEN. POWER
135 kWGEAR TYPE
350-13GEAR RATIO
1: 4.034GEAR EFFICIENCY (Load:1/1-3/4)
95.2% - 94.1%

735

43-44-4AA

4

190

350-13

1: 4.034

96.2% - 95.3%

765

43-56-4AA

4

230

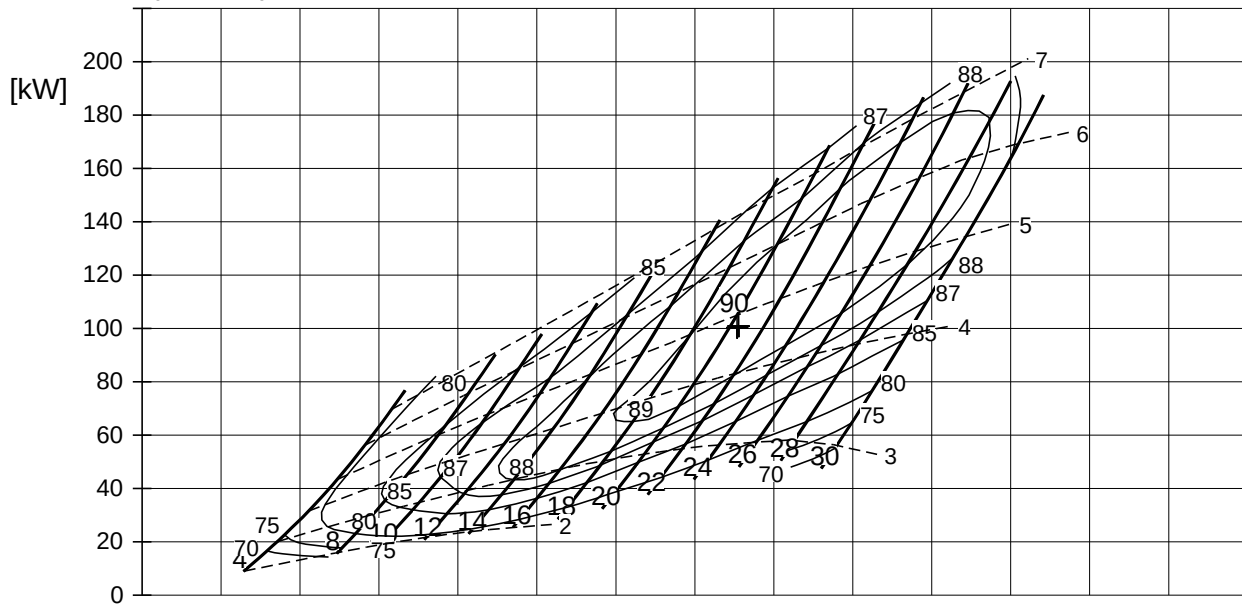
350-13

1: 4.034

96.6% - 95.9%

POWER (SHAFT)

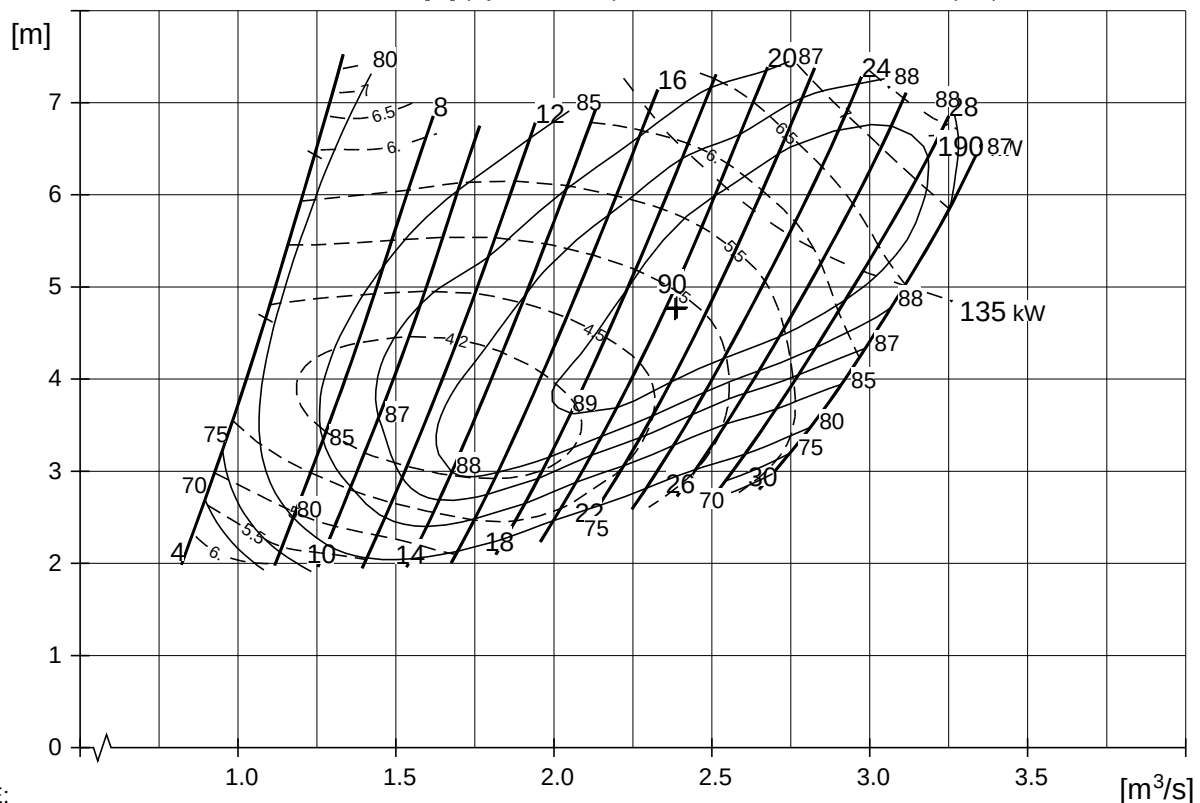
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

53- 377 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
377 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 degDRIVE UNIT
705GENERATOR
43-30-4AAPOLES
4GEN. POWER
135 kWGEAR TYPE
350-13GEAR RATIO
1: 4.034GEAR EFFICIENCY (Load:1/1-3/4)
95.2% - 94.1%

735

43-44-4AA

4

190

350-13

1: 4.034

96.2% - 95.3%

765

43-56-4AA

4

230

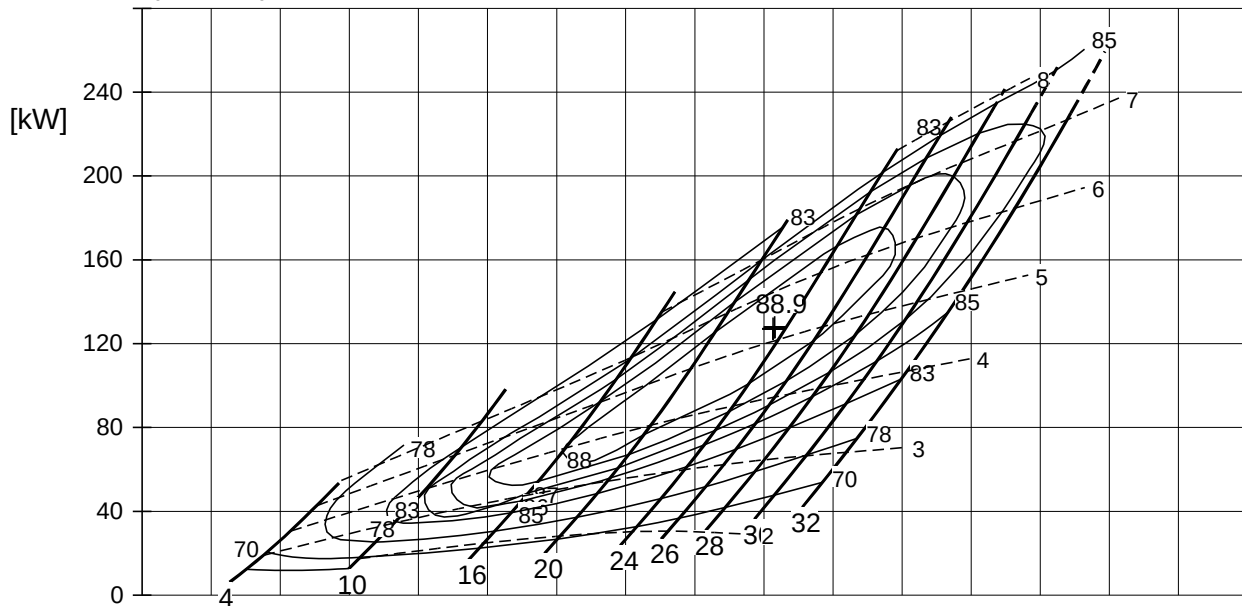
350-13

1: 4.034

96.6% - 95.9%

POWER (SHAFT)

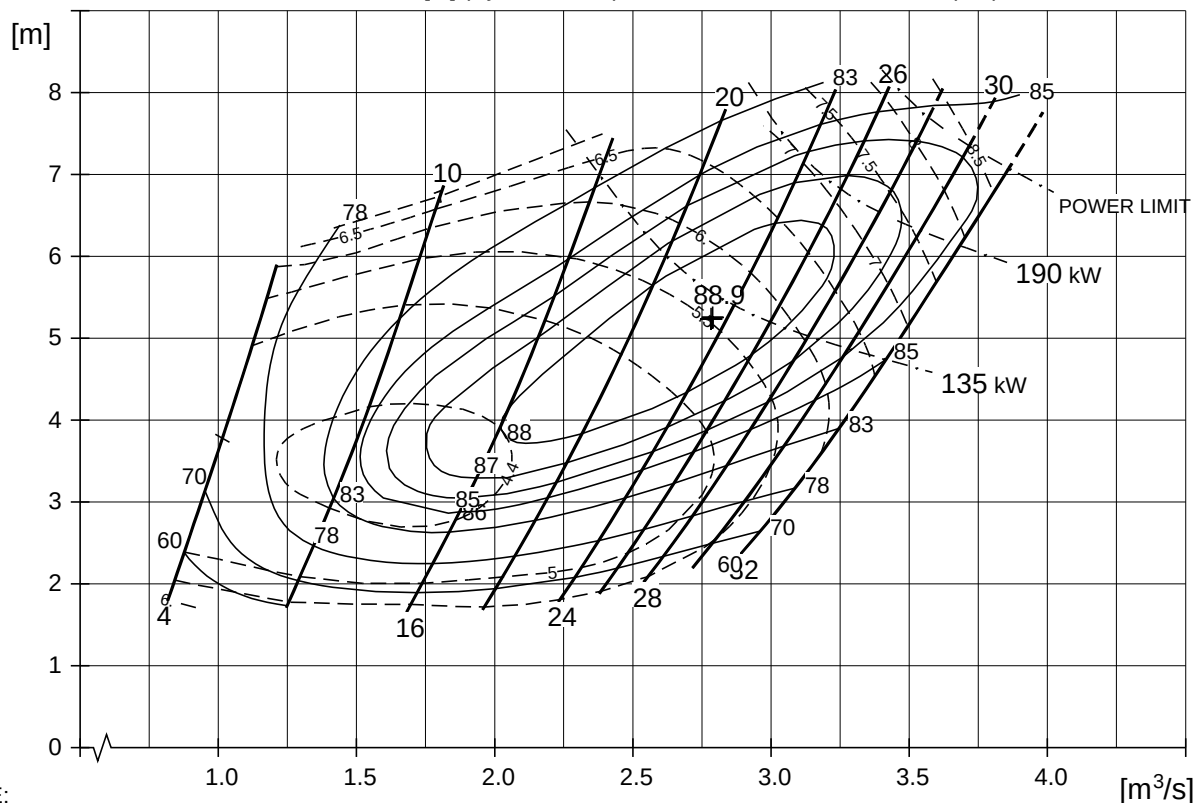
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

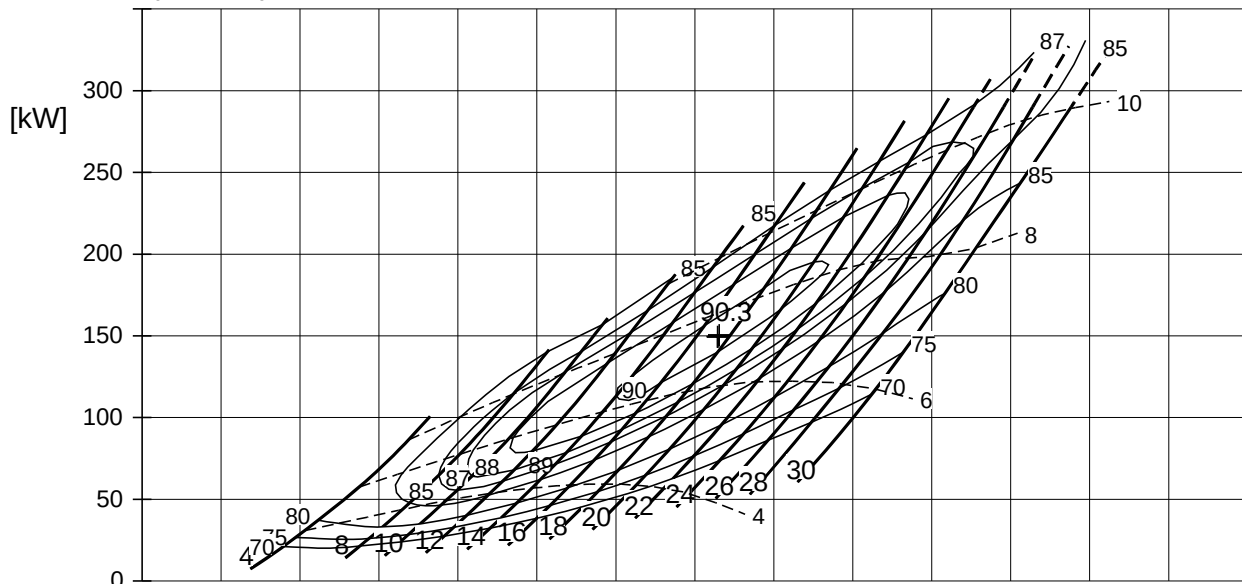
53- 431 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
431 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-4AA	4	135 kW	350-13	1: 3.500	94.8% - 93.6%
735	43-44-4AA	4	190	350-13	1: 3.500	95.9% - 95.0%
765	43-56-4AA	4	230	350-13	1: 3.500	96.3% - 95.6%
835	54-52-4AA	4	290	350-13	1: 3.500	96.8% - 96.2%

POWER (SHAFT)

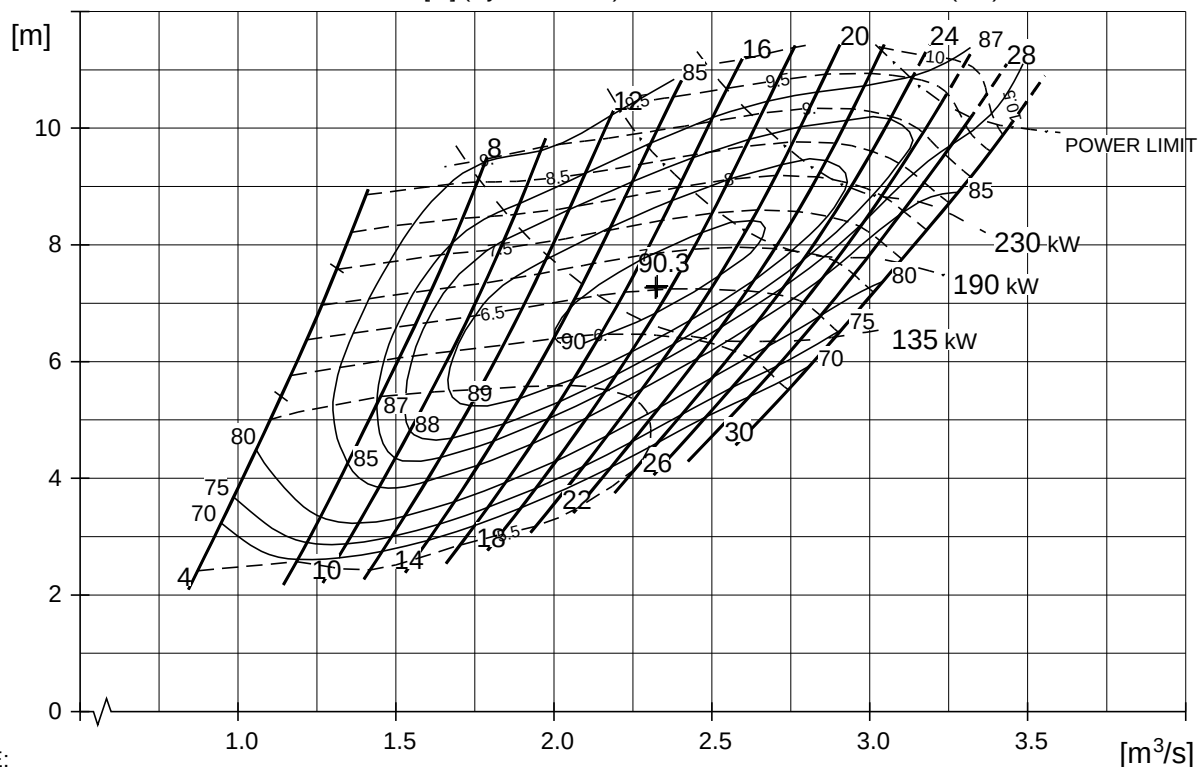
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

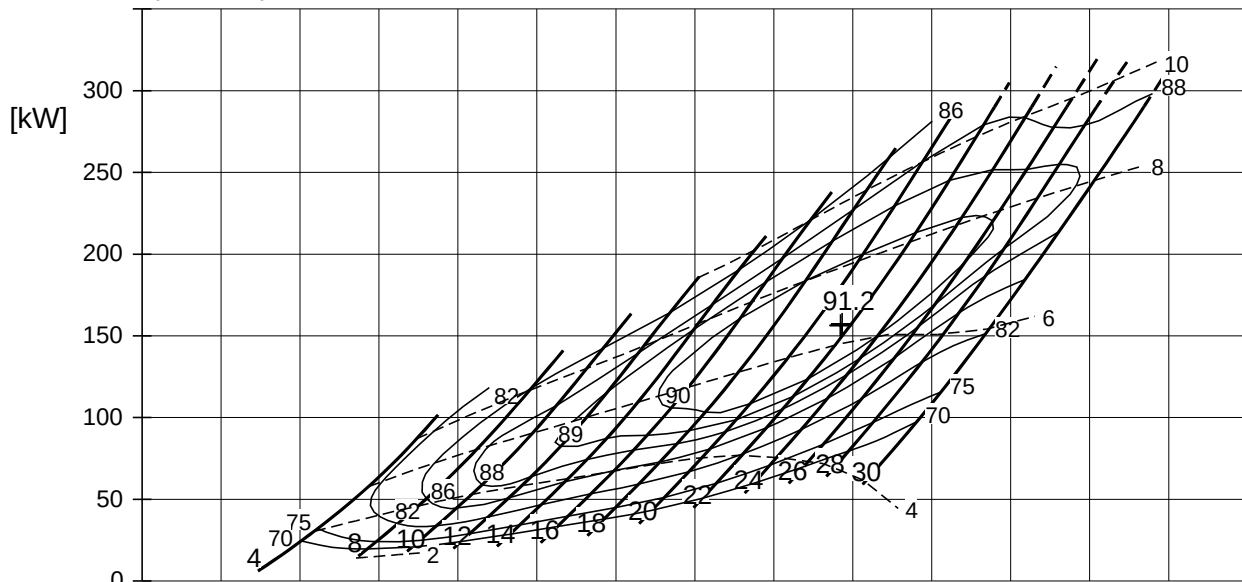
53- 431 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
431 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-4AA	4	135 kW	350-13	1: 3.500	94.8% - 93.6%
735	43-44-4AA	4	190	350-13	1: 3.500	95.9% - 95.0%
765	43-56-4AA	4	230	350-13	1: 3.500	96.3% - 95.6%
835	54-52-4AA	4	290	350-13	1: 3.500	96.8% - 96.2%

POWER (SHAFT)

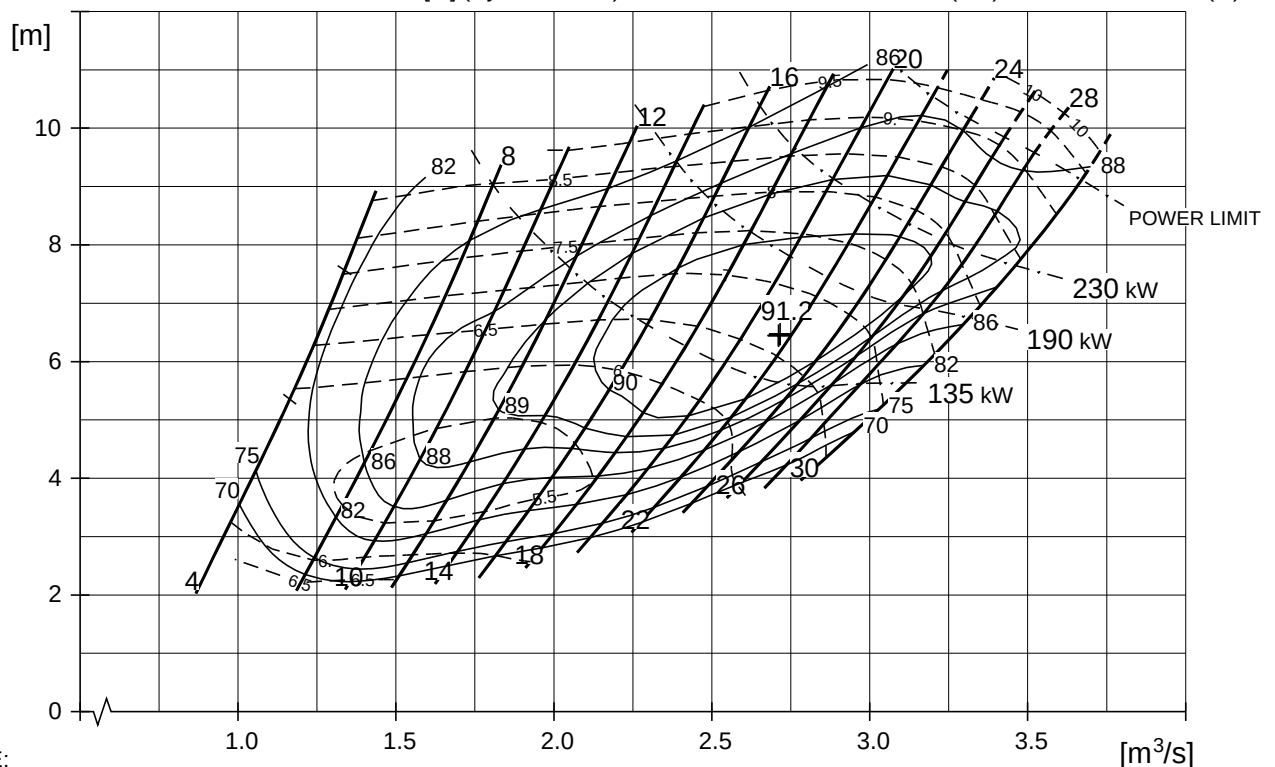
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

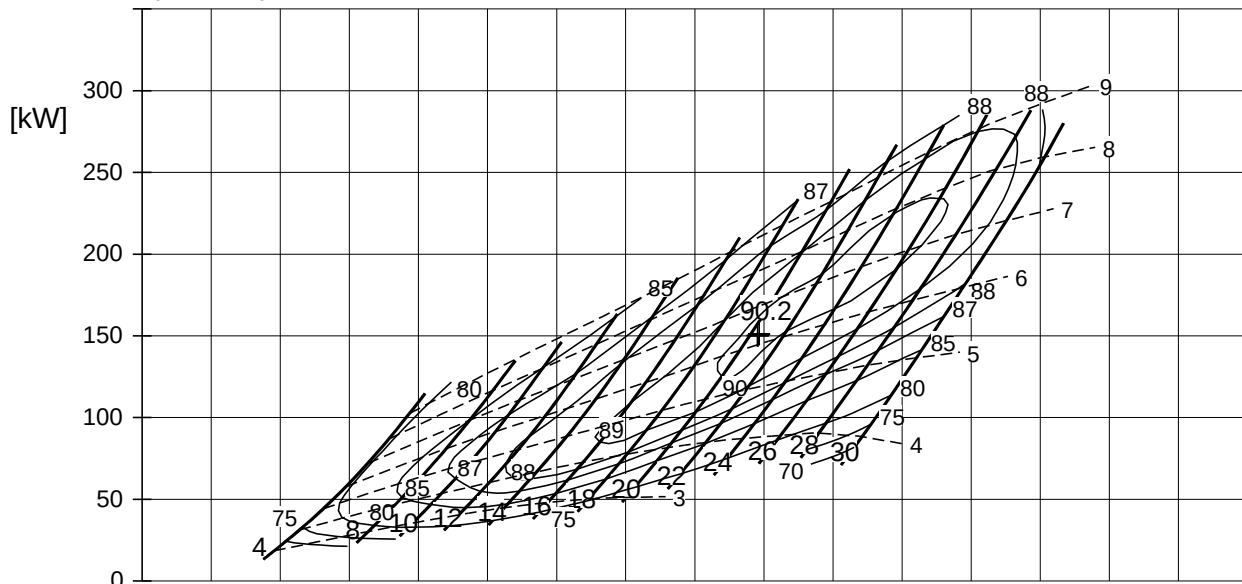
53- 431 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
431 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-4AA	4	135 kW	350-13	1: 3.500	94.8% - 93.6%
735	43-44-4AA	4	190	350-13	1: 3.500	95.9% - 95.0%
765	43-56-4AA	4	230	350-13	1: 3.500	96.3% - 95.6%
835	54-52-4AA	4	290	350-13	1: 3.500	96.8% - 96.2%

POWER (SHAFT)

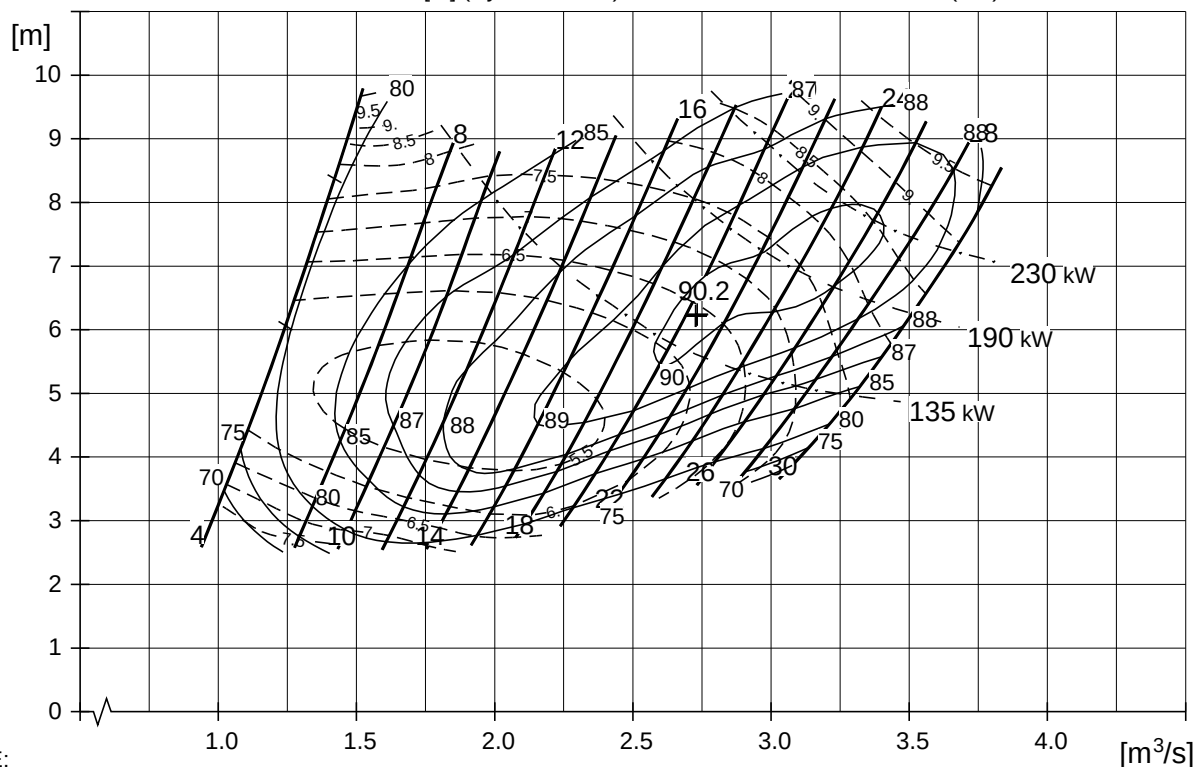
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

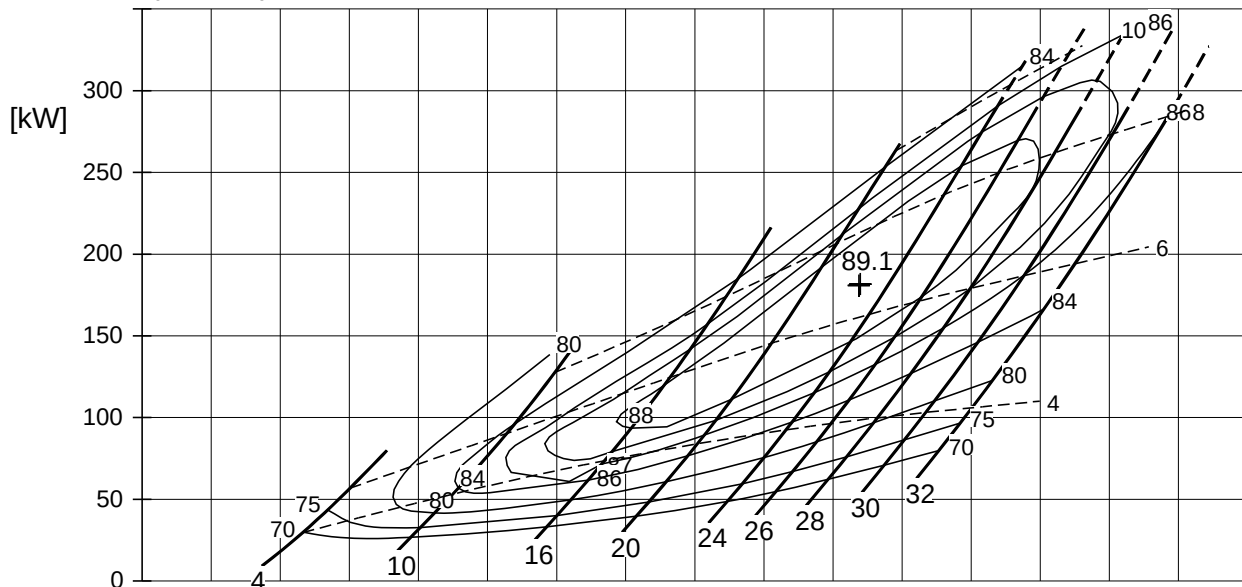
53- 431 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
431 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-4AA	4	135 kW	350-13	1: 3.500	94.8% - 93.6%
735	43-44-4AA	4	190	350-13	1: 3.500	95.9% - 95.0%
765	43-56-4AA	4	230	350-13	1: 3.500	96.3% - 95.6%
835	54-52-4AA	4	290	350-13	1: 3.500	96.8% - 96.2%

POWER (SHAFT)

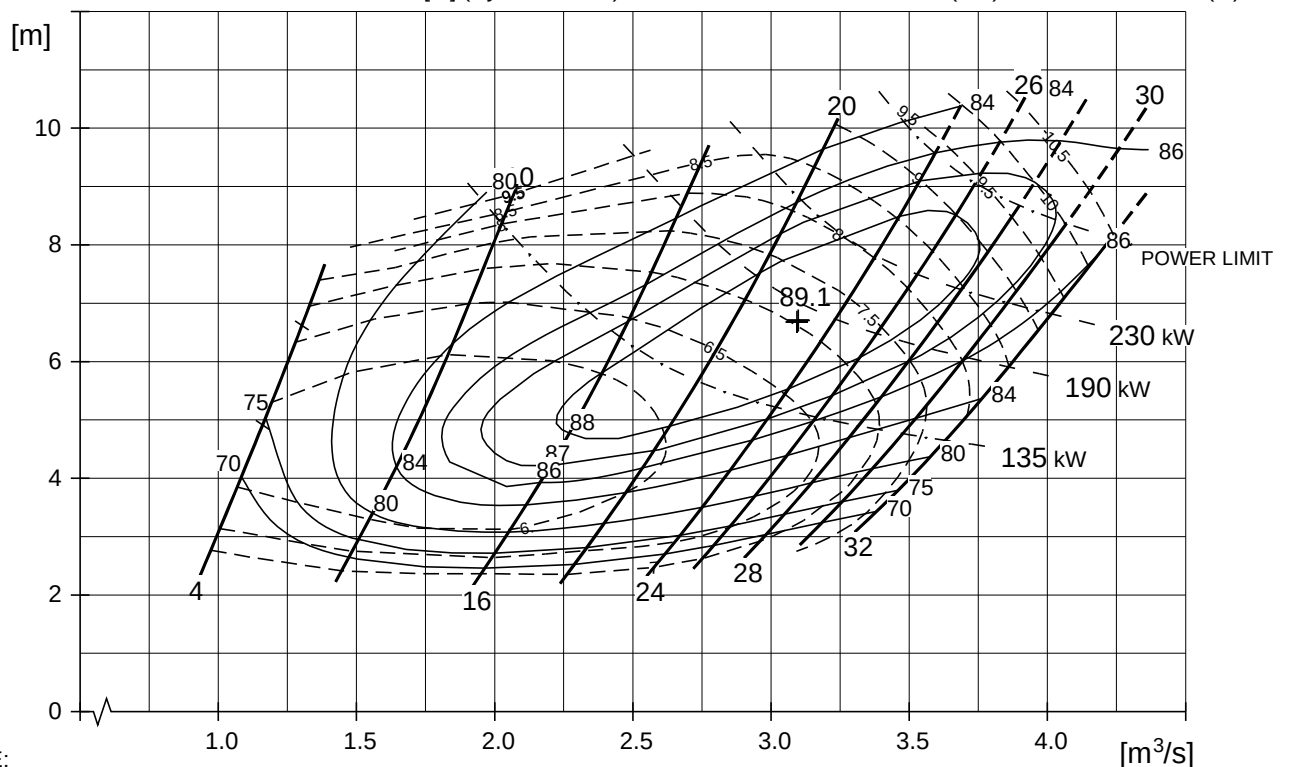
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

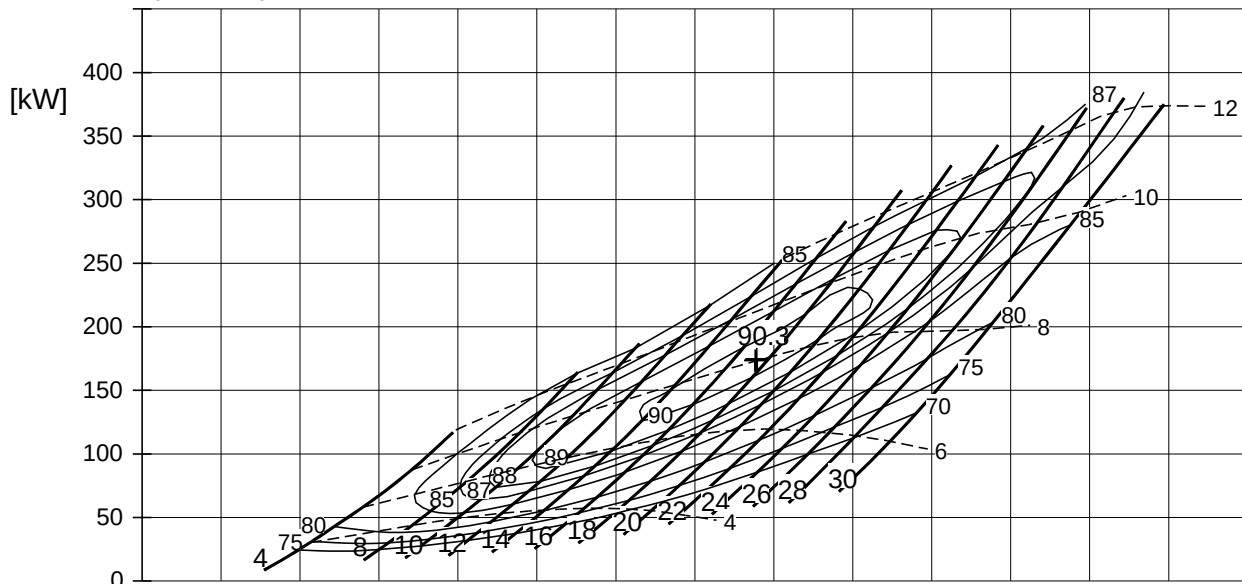
53- 453 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
453 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-4AA	4	190 kW	350-13	1: 3.333	96.8% - 96.1%
765	43-56-4AA	4	230	350-13	1: 3.333	97.1% - 96.6%
835	54-52-4AA	4	290	350-13	1: 3.333	97.5% - 97.0%
865	54-66-4AA	4	375	350-13	1: 3.333	97.8% - 97.4%

POWER (SHAFT)

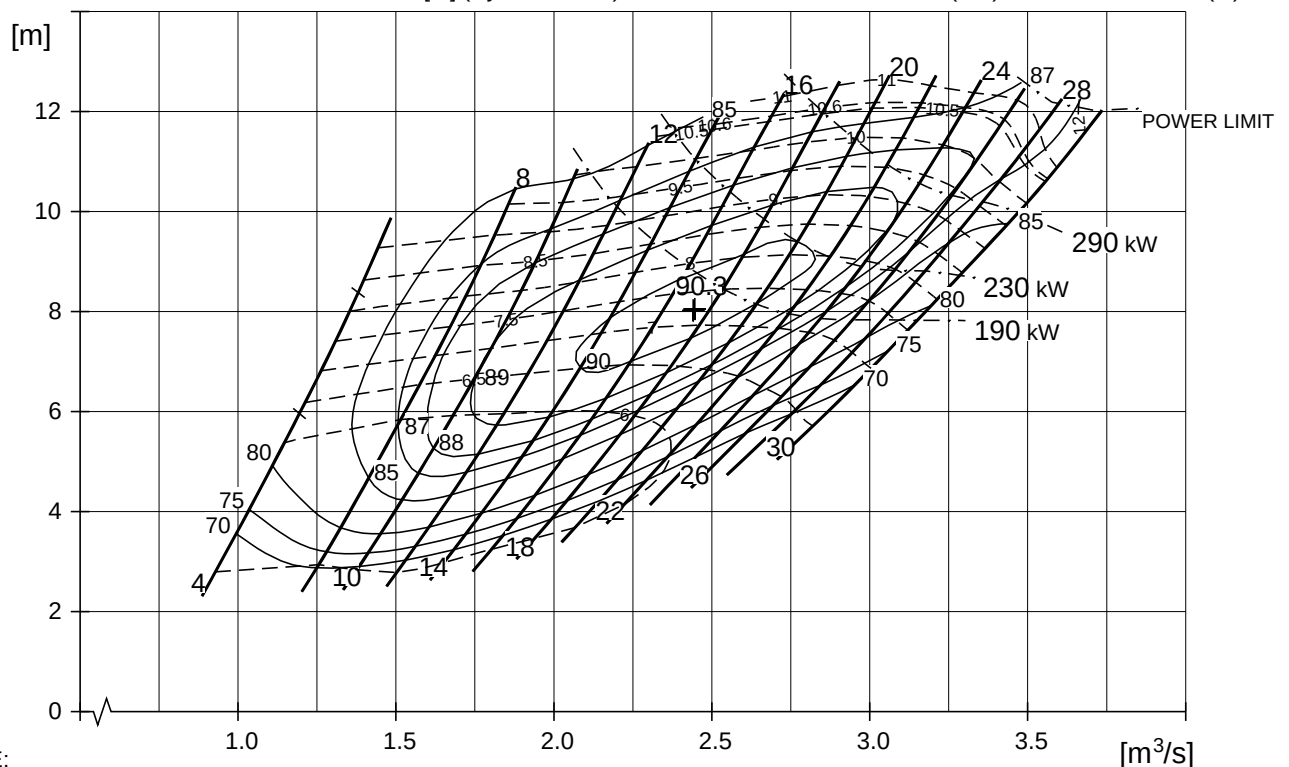
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

53- 453C4E

DATE
2016-02-10

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
453 RPM

IMPELLER/HUB DIAMETER
850 / 400 mm

GUIDE VANE(S)
57 deg

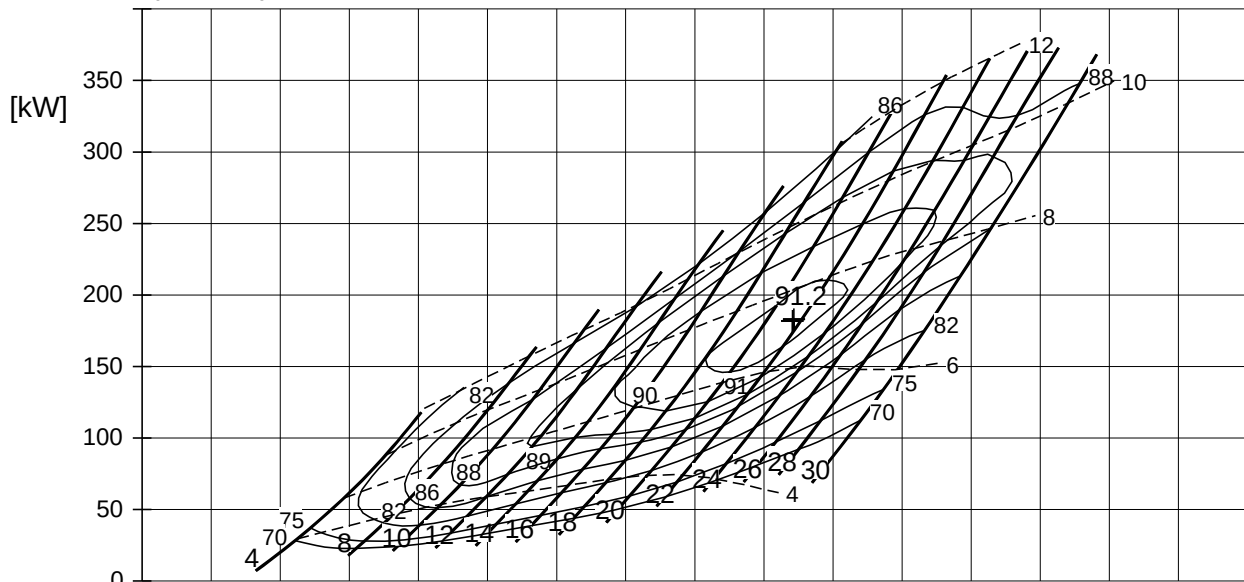
NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-4AA	4	190 kW	350-13	1: 3.333	96.8% - 96.1%
765	43-56-4AA	4	230	350-13	1: 3.333	97.1% - 96.6%
835	54-52-4AA	4	290	350-13	1: 3.333	97.5% - 97.0%
865	54-66-4AA	4	375	350-13	1: 3.333	97.8% - 97.4%

POWER (SHAFT)

ISO-CURVES : (- - -) HEAD(m)



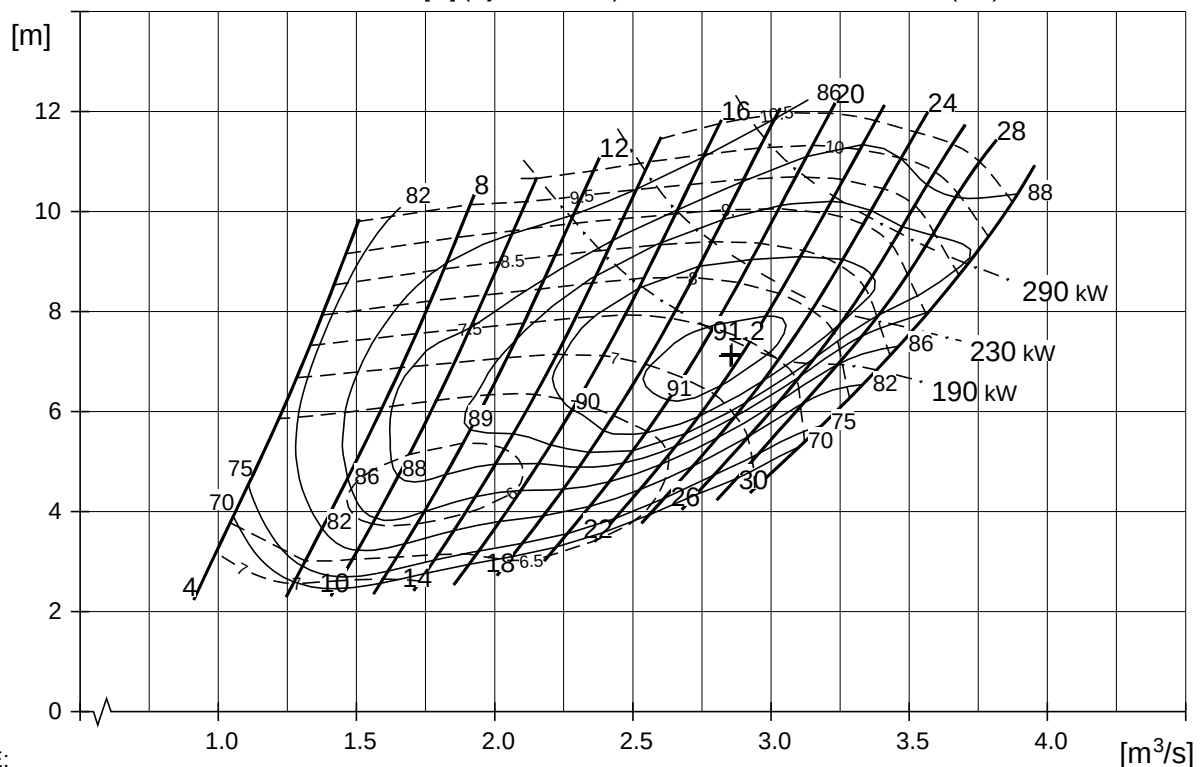
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

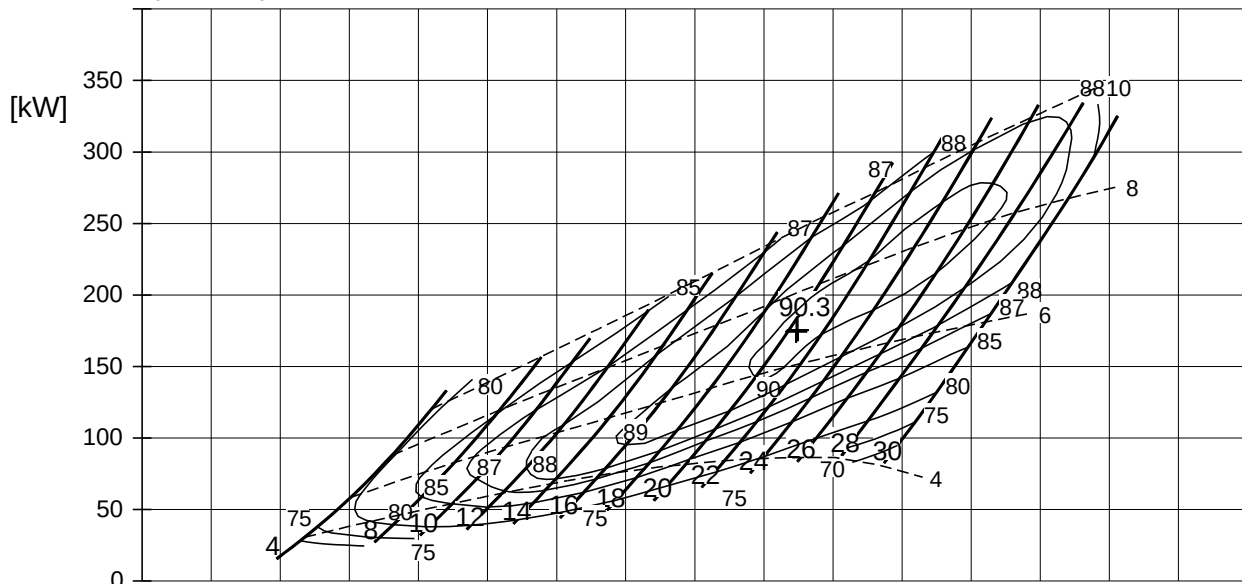
53- 453C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
453 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-4AA	4	190 kW	350-13	1: 3.333	96.8% - 96.1%
765	43-56-4AA	4	230	350-13	1: 3.333	97.1% - 96.6%
835	54-52-4AA	4	290	350-13	1: 3.333	97.5% - 97.0%
865	54-66-4AA	4	375	350-13	1: 3.333	97.8% - 97.4%

POWER (SHAFT)

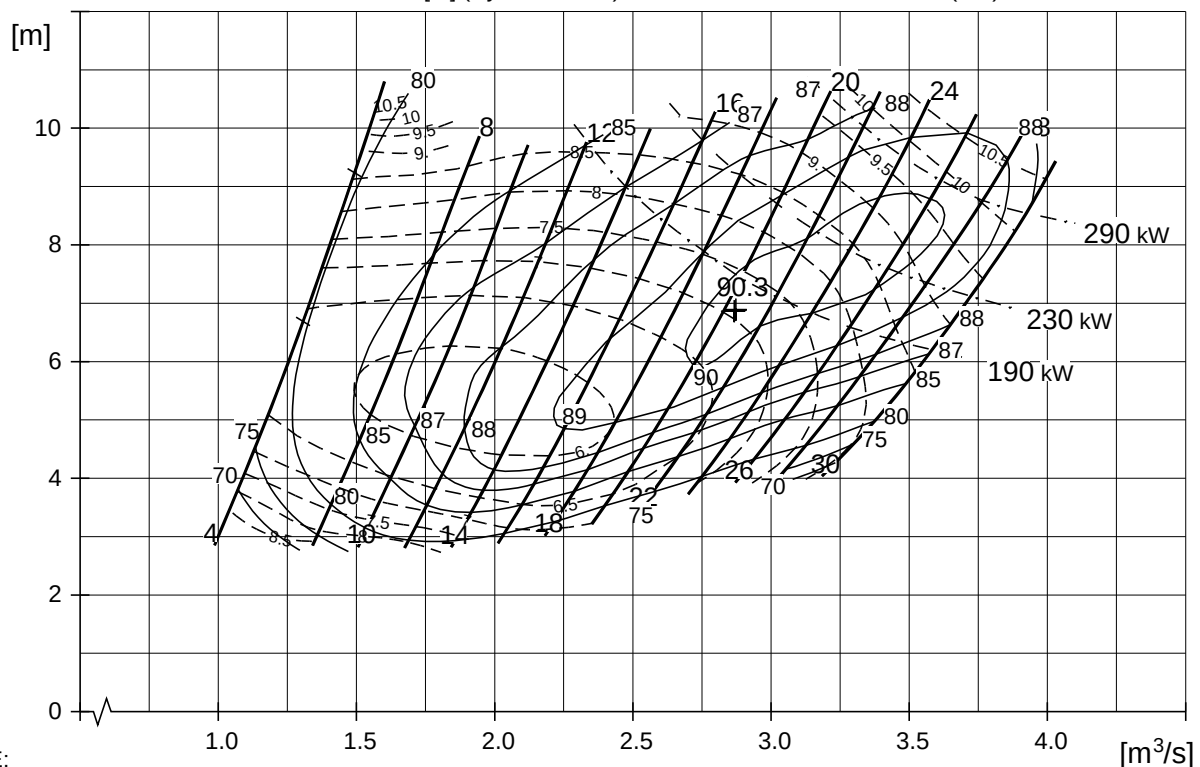
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

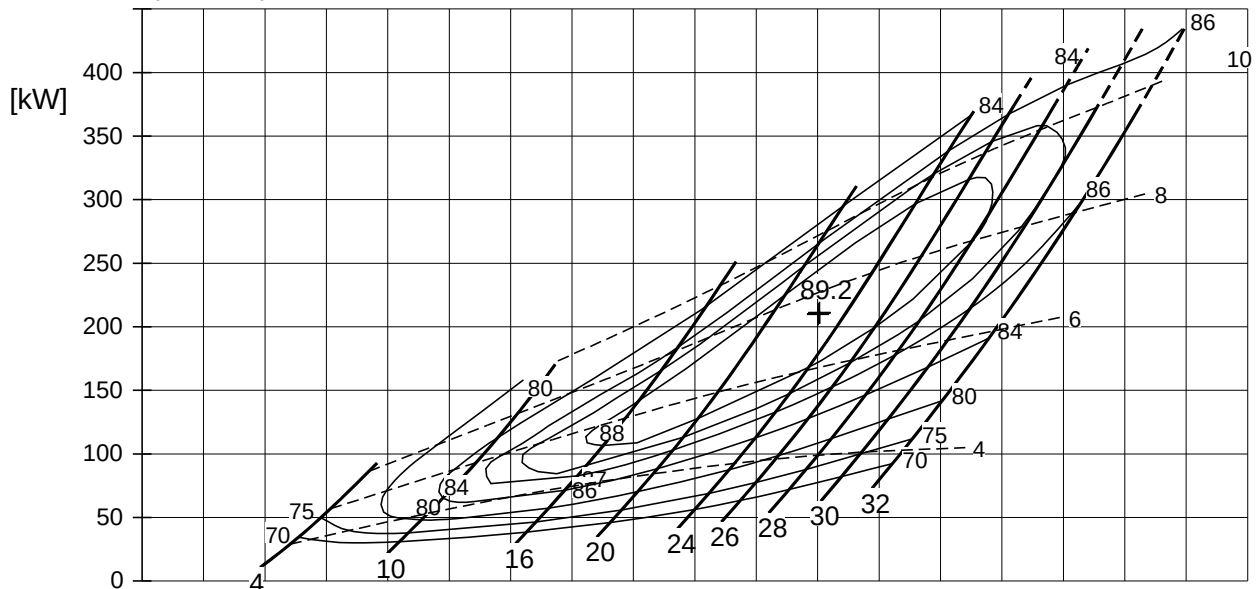
53- 453 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
453 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-4AA	4	190 kW	350-13	1: 3.333	96.8% - 96.1%
765	43-56-4AA	4	230	350-13	1: 3.333	97.1% - 96.6%
835	54-52-4AA	4	290	350-13	1: 3.333	97.5% - 97.0%
865	54-66-4AA	4	375	350-13	1: 3.333	97.8% - 97.4%

POWER (SHAFT)

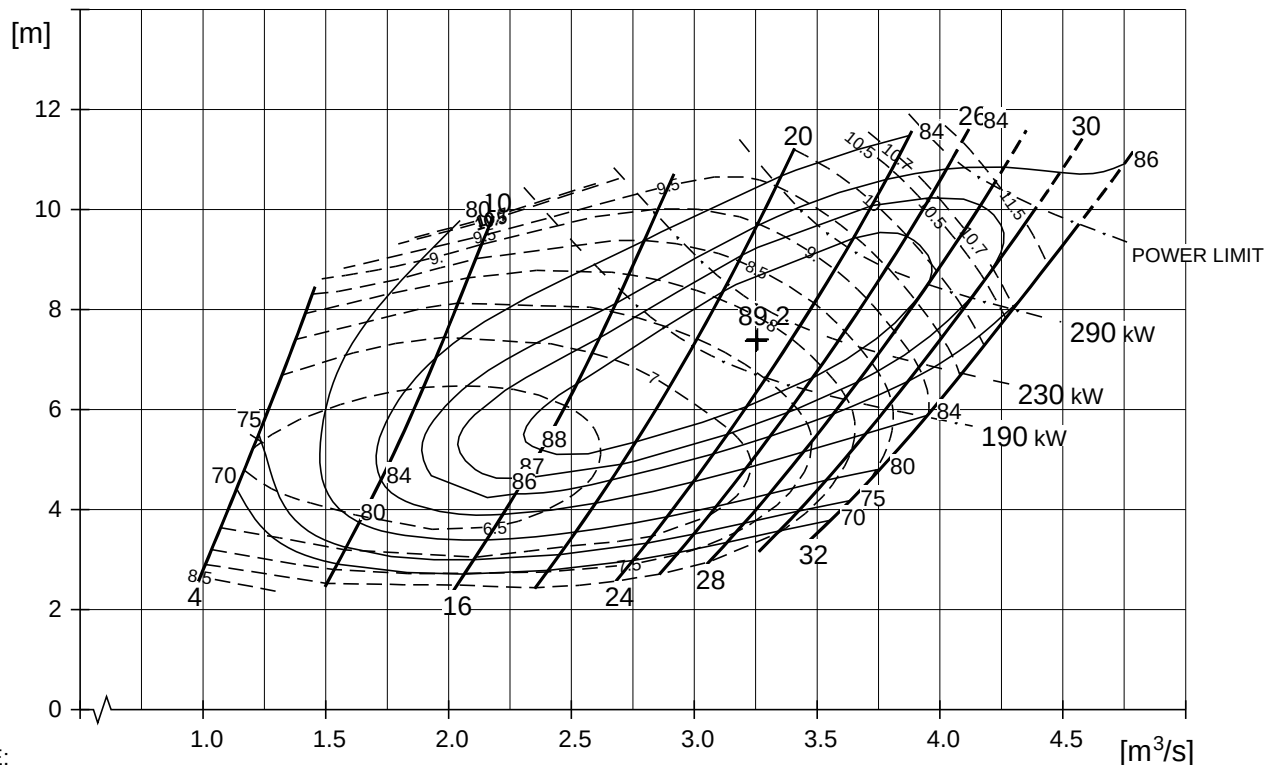
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

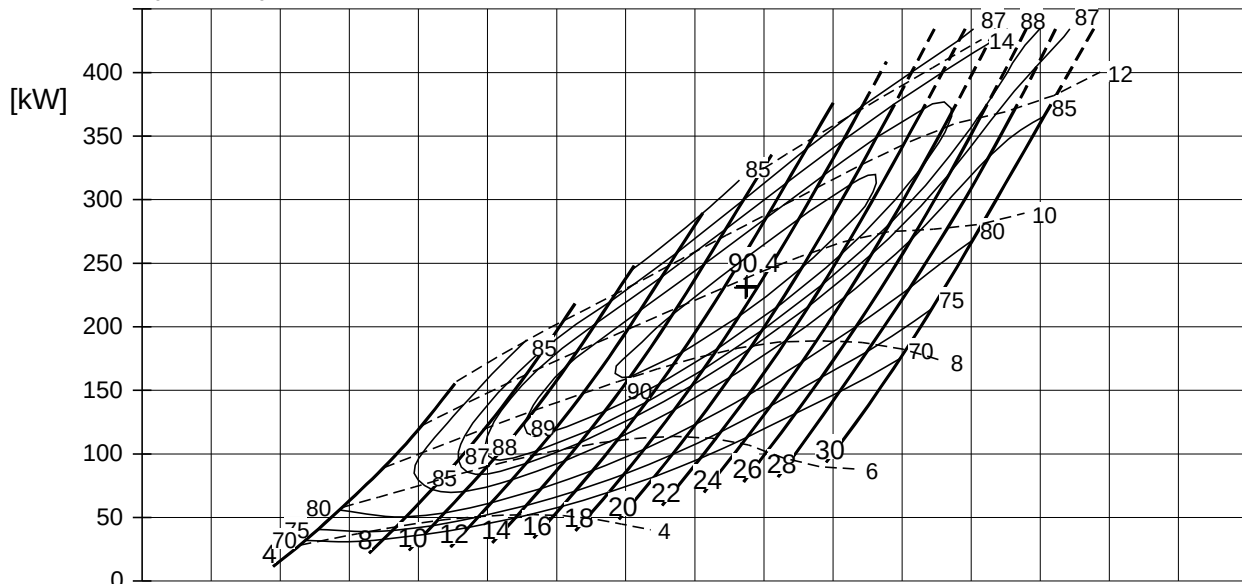
53- 498 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
498 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-4AA	4	190 kW	350-13	1: 3.034	96.6% - 95.9%
765	43-56-4AA	4	230	350-13	1: 3.034	97.0% - 96.4%
835	54-52-4AA	4	290	350-13	1: 3.034	97.4% - 96.9%
865	54-66-4AA	4	375	350-13	1: 3.034	97.7% - 97.3%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)



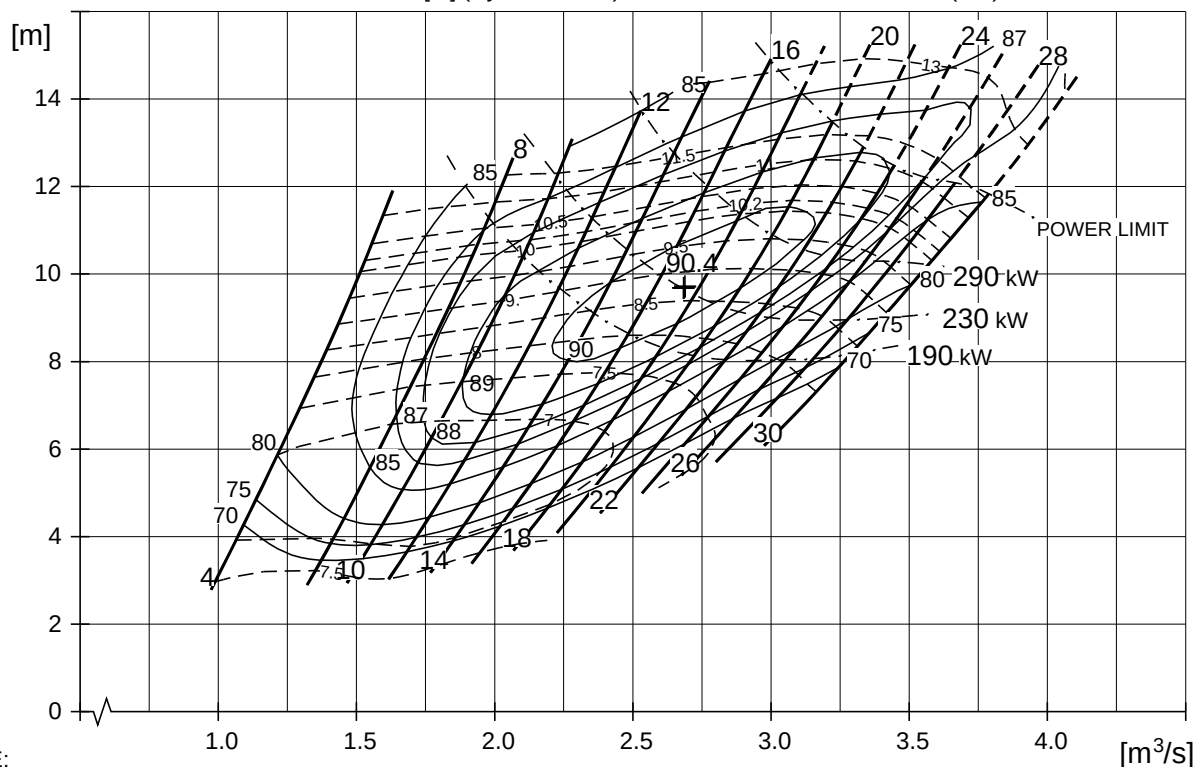
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

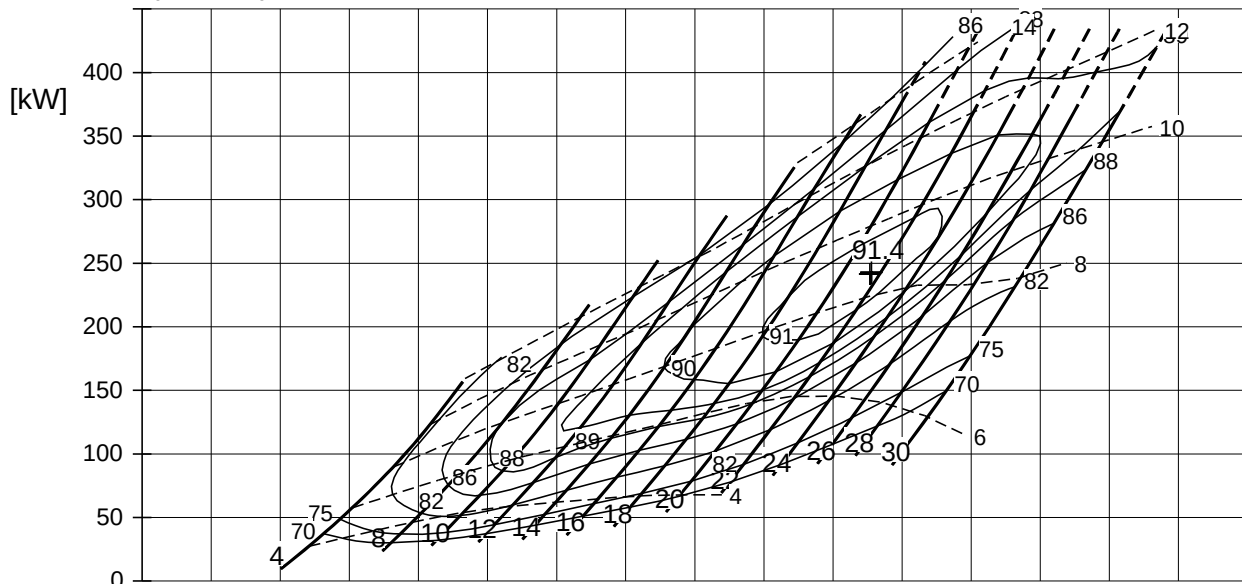
53- 498 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
498 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-4AA	4	190 kW	350-13	1: 3.034	96.6% - 95.9%
765	43-56-4AA	4	230	350-13	1: 3.034	97.0% - 96.4%
835	54-52-4AA	4	290	350-13	1: 3.034	97.4% - 96.9%
865	54-66-4AA	4	375	350-13	1: 3.034	97.7% - 97.3%

POWER (SHAFT)

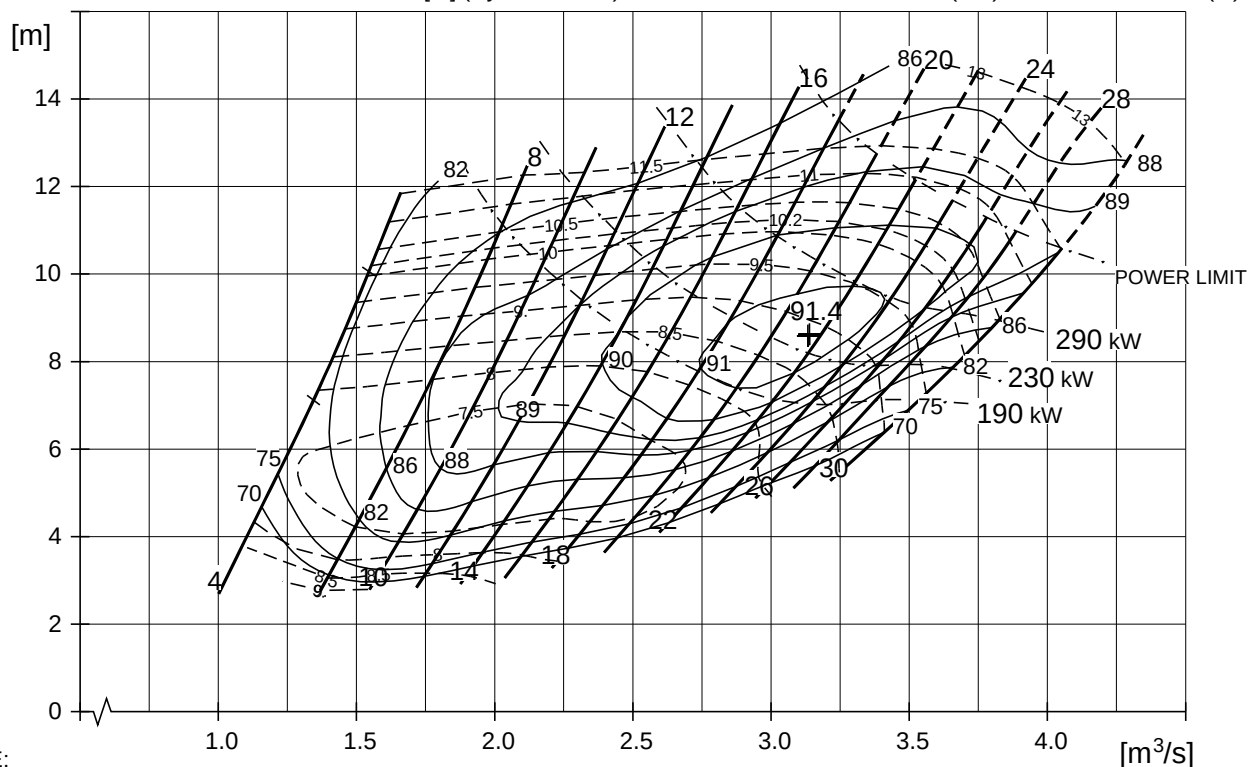
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

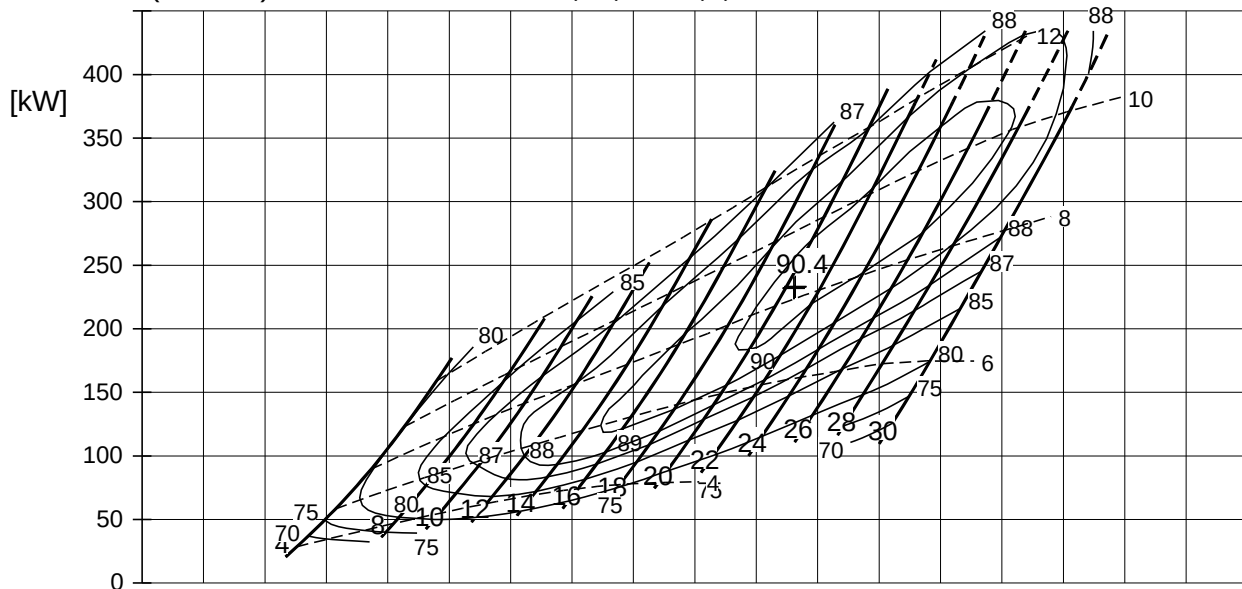
53- 498 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
498 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-4AA	4	190 kW	350-13	1: 3.034	96.6% - 95.9%
765	43-56-4AA	4	230	350-13	1: 3.034	97.0% - 96.4%
835	54-52-4AA	4	290	350-13	1: 3.034	97.4% - 96.9%
865	54-66-4AA	4	375	350-13	1: 3.034	97.7% - 97.3%

POWER (SHAFT)

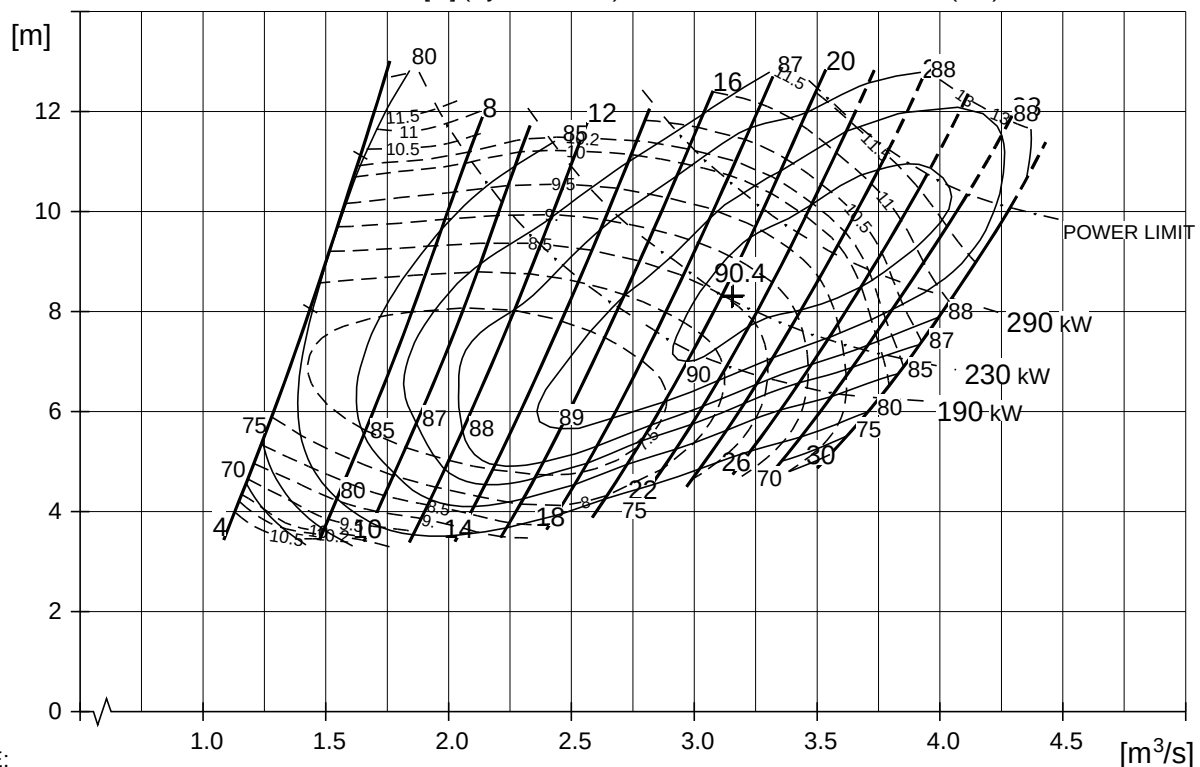
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

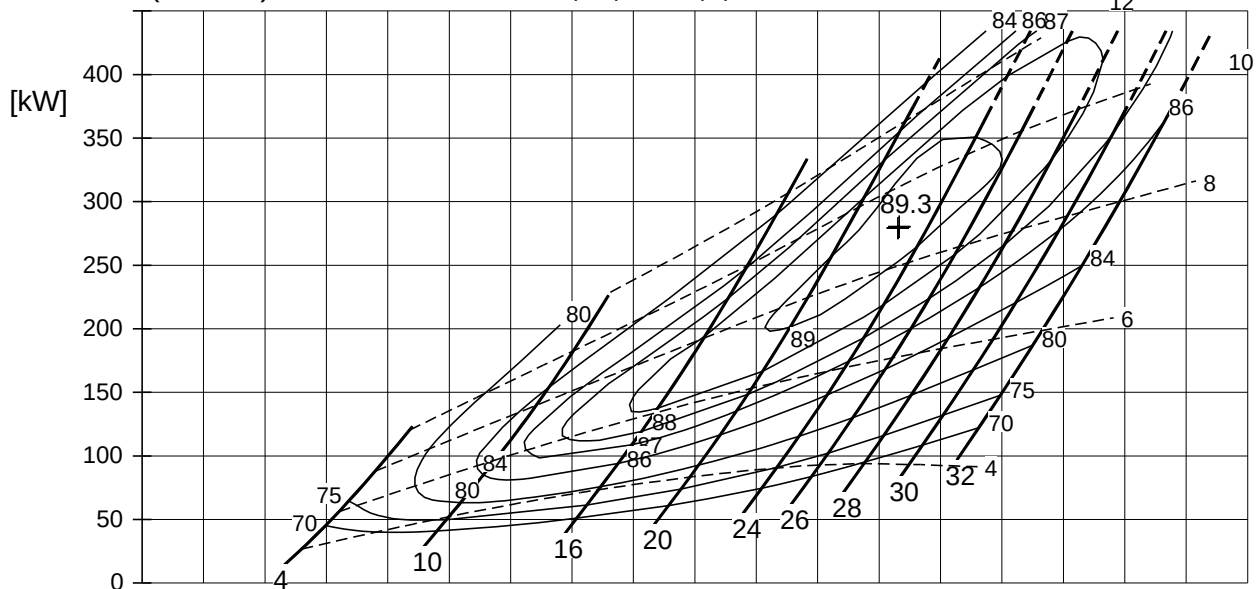
53- 498 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
498 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-4AA	4	190 kW	350-13	1: 3.034	96.6% - 95.9%
765	43-56-4AA	4	230	350-13	1: 3.034	97.0% - 96.4%
835	54-52-4AA	4	290	350-13	1: 3.034	97.4% - 96.9%
865	54-66-4AA	4	375	350-13	1: 3.034	97.7% - 97.3%

POWER (SHAFT)

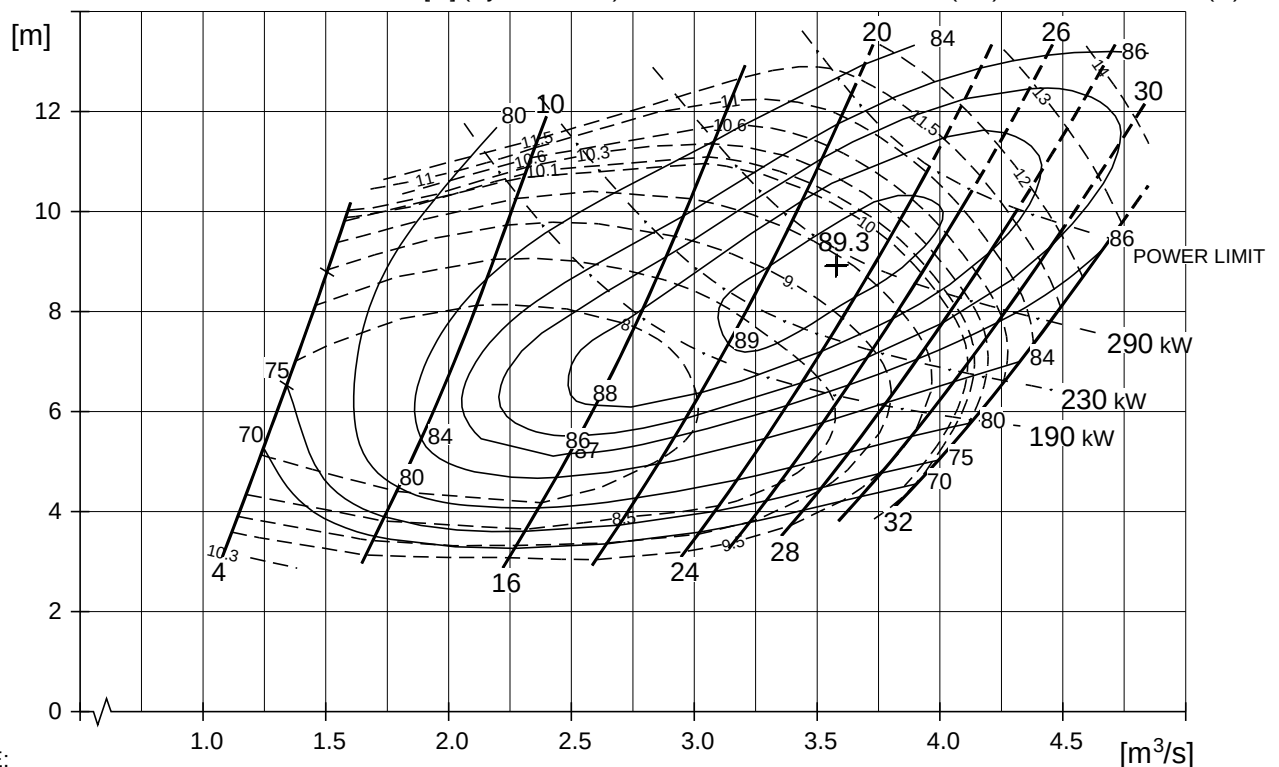
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

53- 567 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
567 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
765GENERATOR
43-56-4AAPOLES
4GEN. POWER
230 kWGEAR TYPE
350-13GEAR RATIO
1: 2.681GEAR EFFICIENCY (Load:1/1-3/4)
96.8% - 96.2%

835

54-52-4AA

4

290

350-13

1: 2.681

97.2% - 96.7%

865

54-66-4AA

4

375

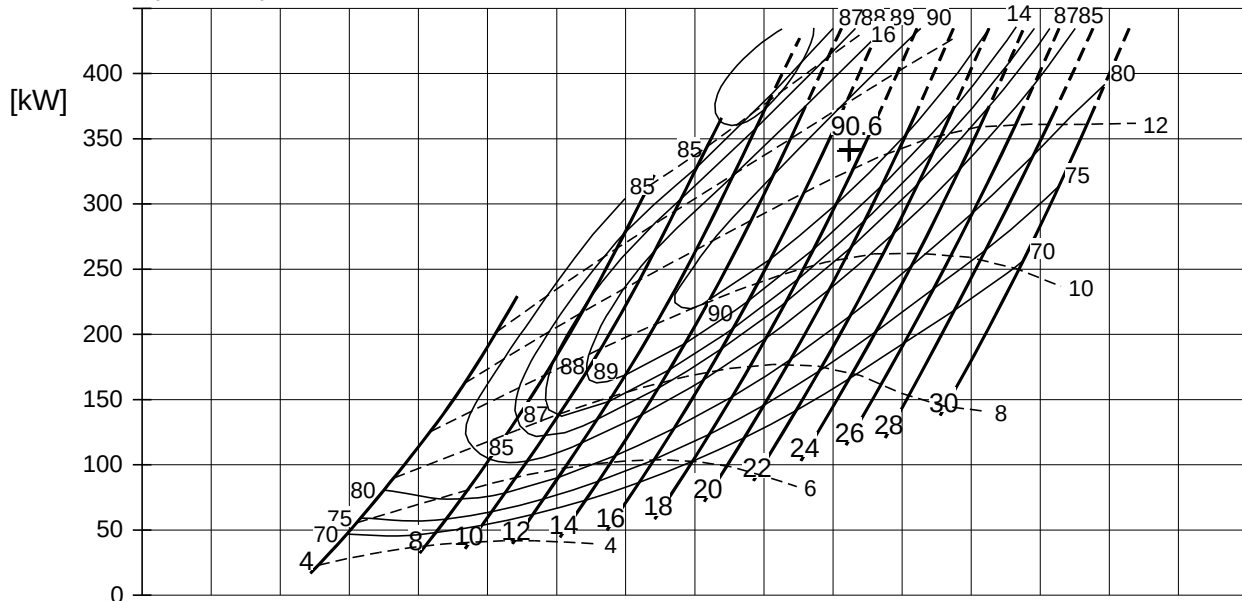
350-13

1: 2.681

97.5% - 97.2%

POWER (SHAFT)

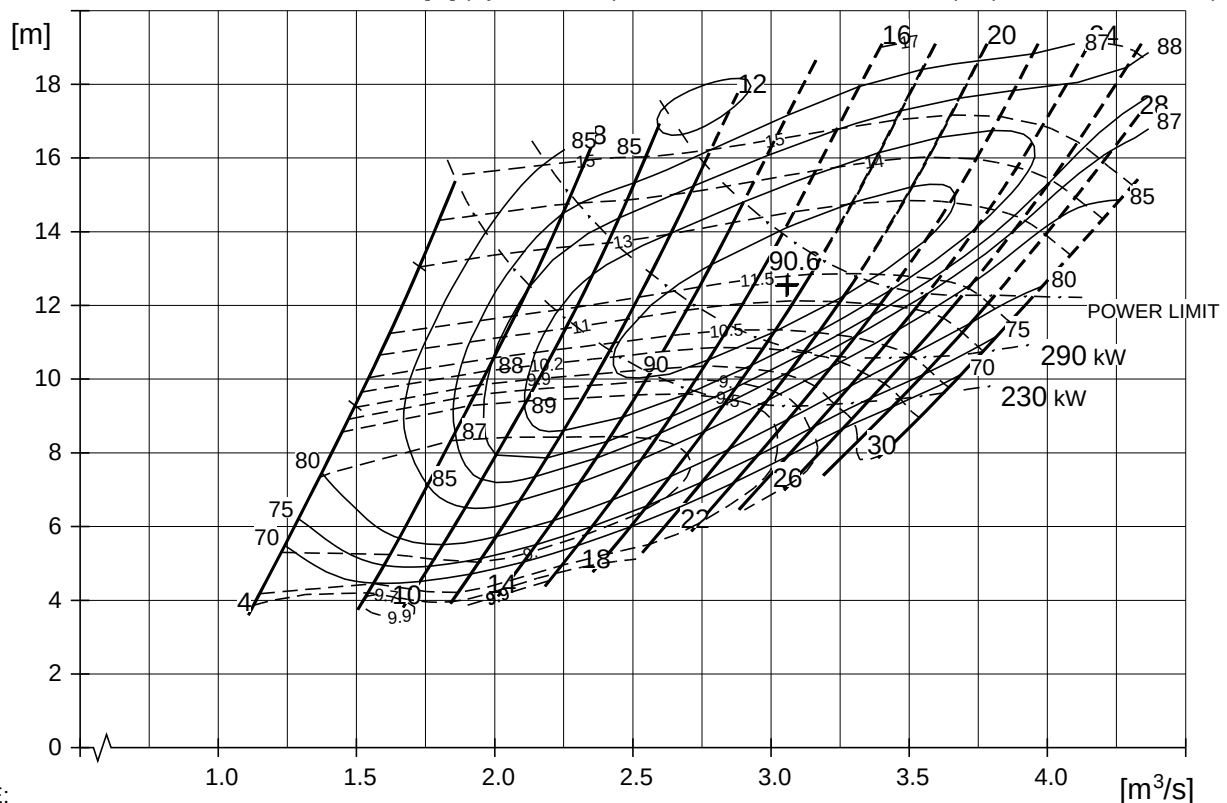
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

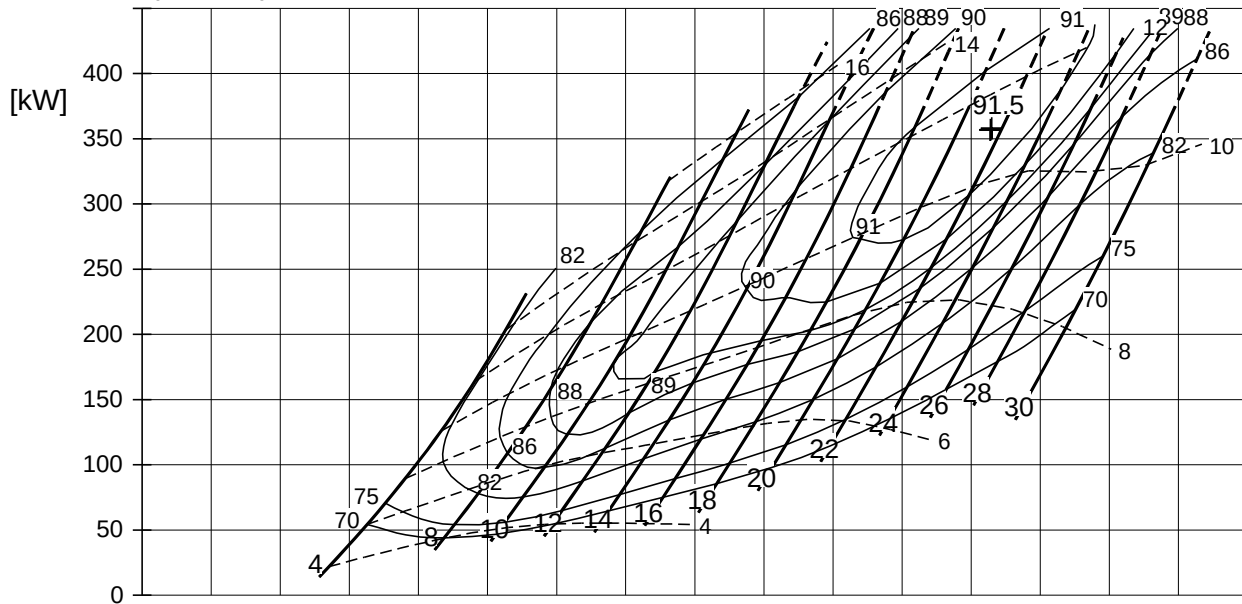
CURVE NO

53- 567 C4E

DATE 2016-02-10	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 567 RPM			
IMPELLER/HUB DIAMETER 850 / 400 mm	GUIDE VANE(S) 57 deg		NO. OF BLADES 4		AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 30 deg	
DRIVE UNIT 765	GENERATOR 43-56-4AA	POLES 4	GEN. POWER 230 kW	GEAR TYPE 350-13	GEAR RATIO 1: 2.681	GEAR EFFICIENCY (Load:1/1-3/4) 96.8% - 96.2%
835	54-52-4AA	4	290	350-13	1: 2.681	97.2% - 96.7%
865	54-66-4AA	4	375	350-13	1: 2.681	97.5% - 97.2%

POWER (SHAFT)

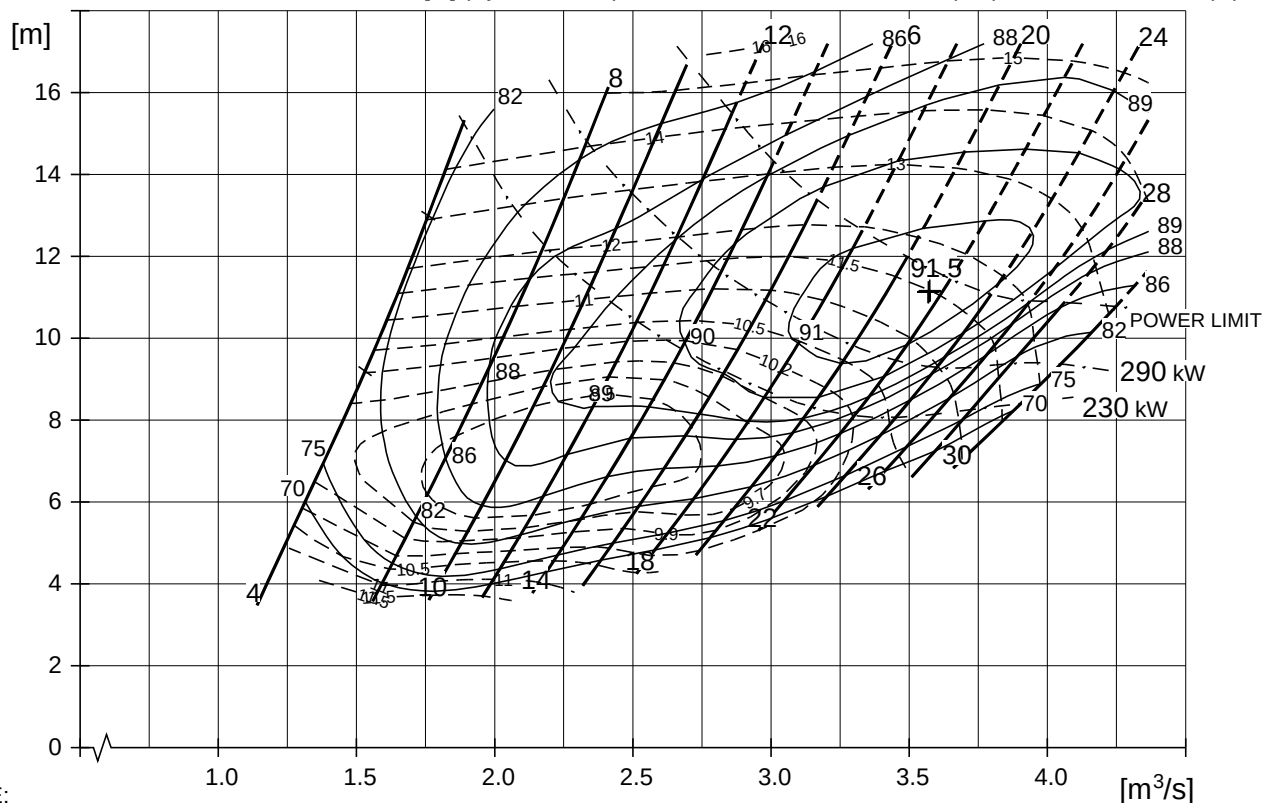
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

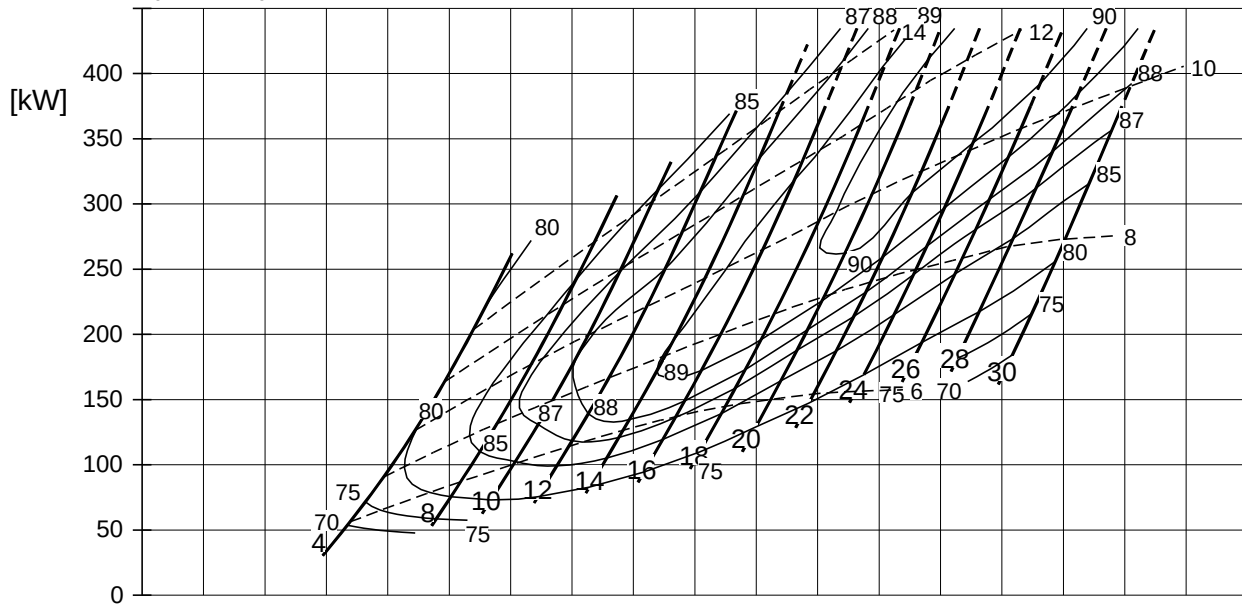
53- 567 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
567 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-4AA	4	230 kW	350-13	1: 2.681	96.8% - 96.2%
835	54-52-4AA	4	290	350-13	1: 2.681	97.2% - 96.7%
865	54-66-4AA	4	375	350-13	1: 2.681	97.5% - 97.2%

POWER (SHAFT)

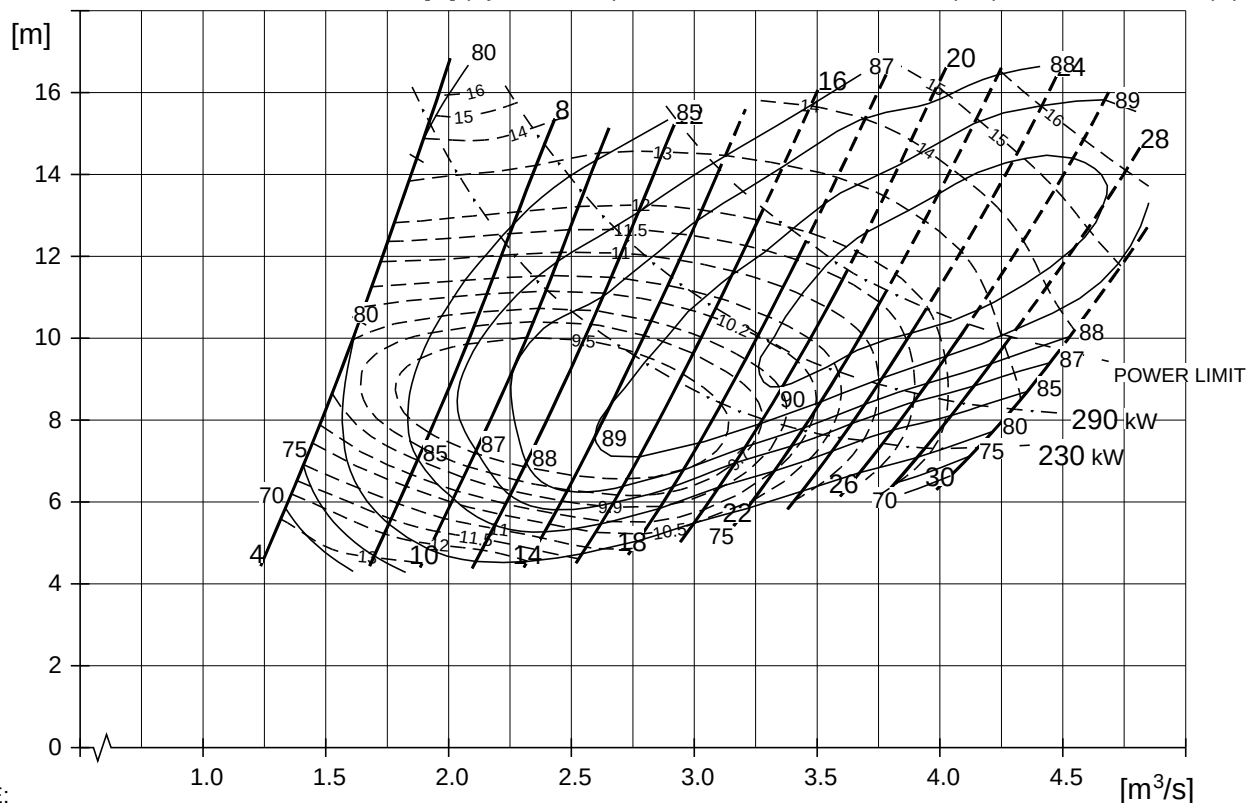
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7585

CURVE NO

53- 567 C4E

DATE
2016-02-10ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
567 RPMIMPELLER/HUB DIAMETER
850 / 400 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 degDRIVE UNIT
765GENERATOR
43-56-4AAPOLES
4GEN. POWER
230 kWGEAR TYPE
350-13GEAR RATIO
1: 2.681GEAR EFFICIENCY (Load:1/1-3/4)
96.8% - 96.2%

835

54-52-4AA

4

290 kW

350-13

1: 2.681

97.2% - 96.7%

865

54-66-4AA

4

375 kW

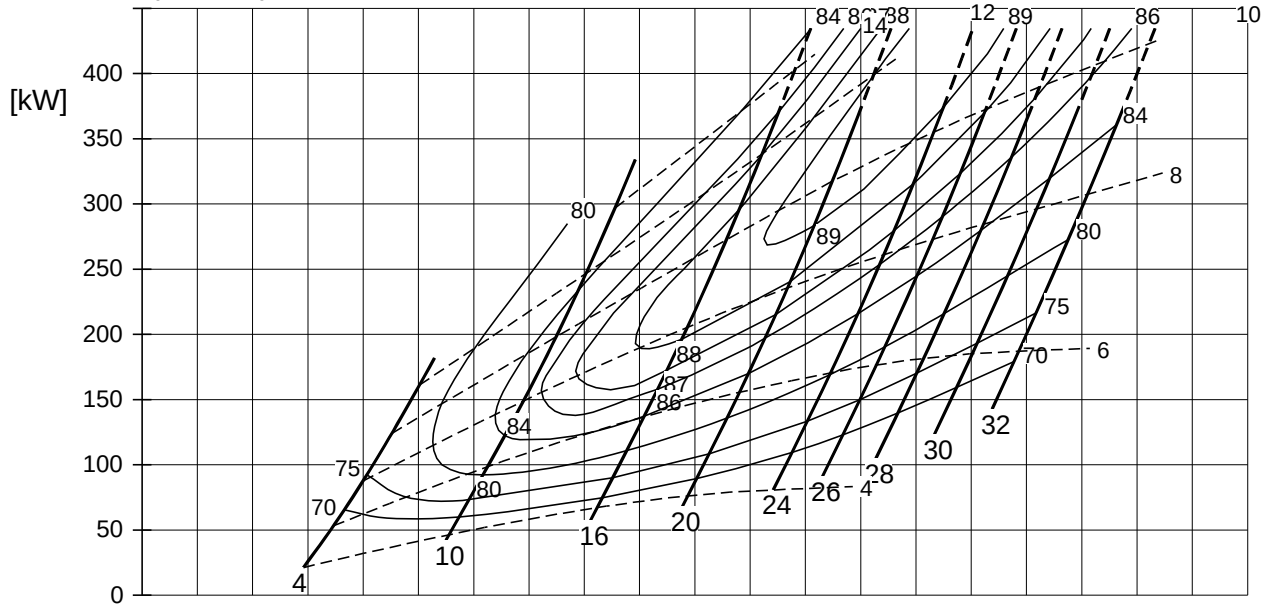
350-13

1: 2.681

97.5% - 97.2%

POWER (SHAFT)

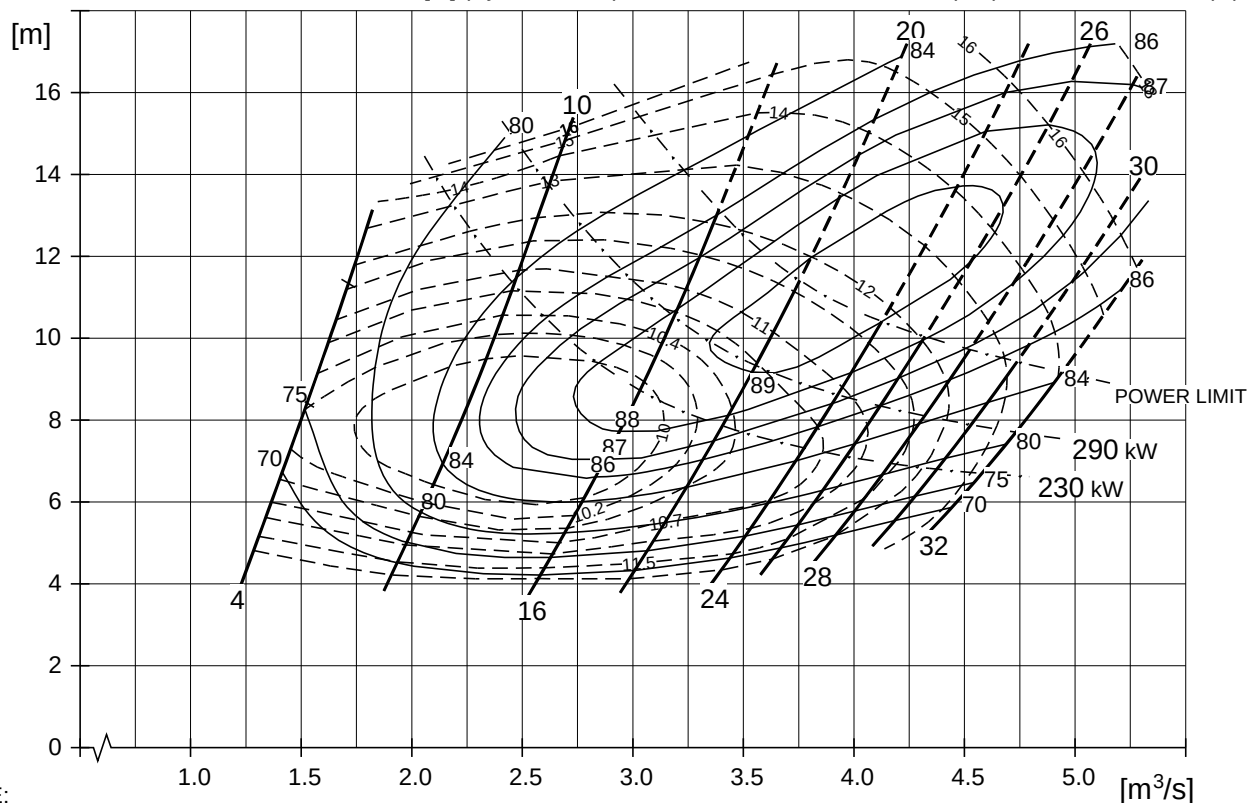
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

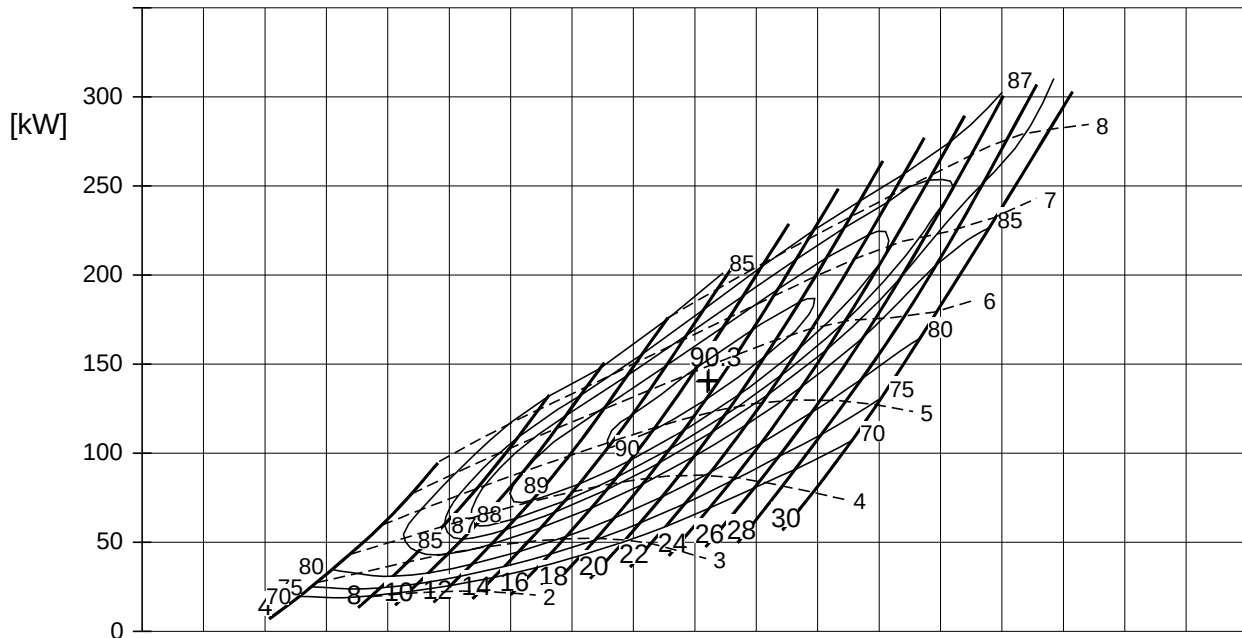
CURVE NO

53- 323C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
323 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
905GENERATOR
66-46-8AAPOLES
8GEN. POWER
300 kWGEAR TYPE
350-13GEAR RATIO
1: 2.333GEAR EFFICIENCY (Load:1/1-3/4)
97.9% - 97.5%

POWER (SHAFT)

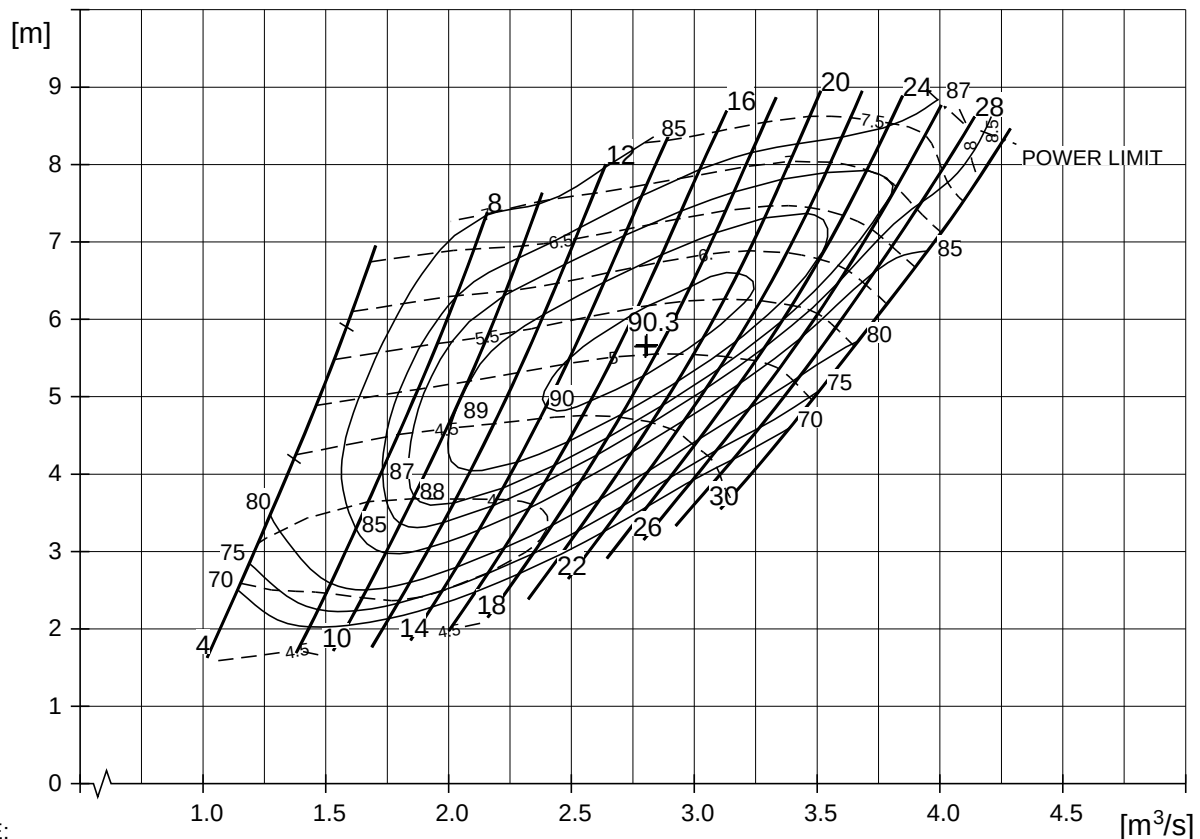
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

53- 323C4E

DATE
2016-02-14

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
323 RPM

IMPELLER/HUB DIAMETER
1000 / 480 mm

GUIDE VANE(S)
57 deg

NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT
905

GENERATOR
66-46-8AA

POLES
8

GEN. POWER
300 kW

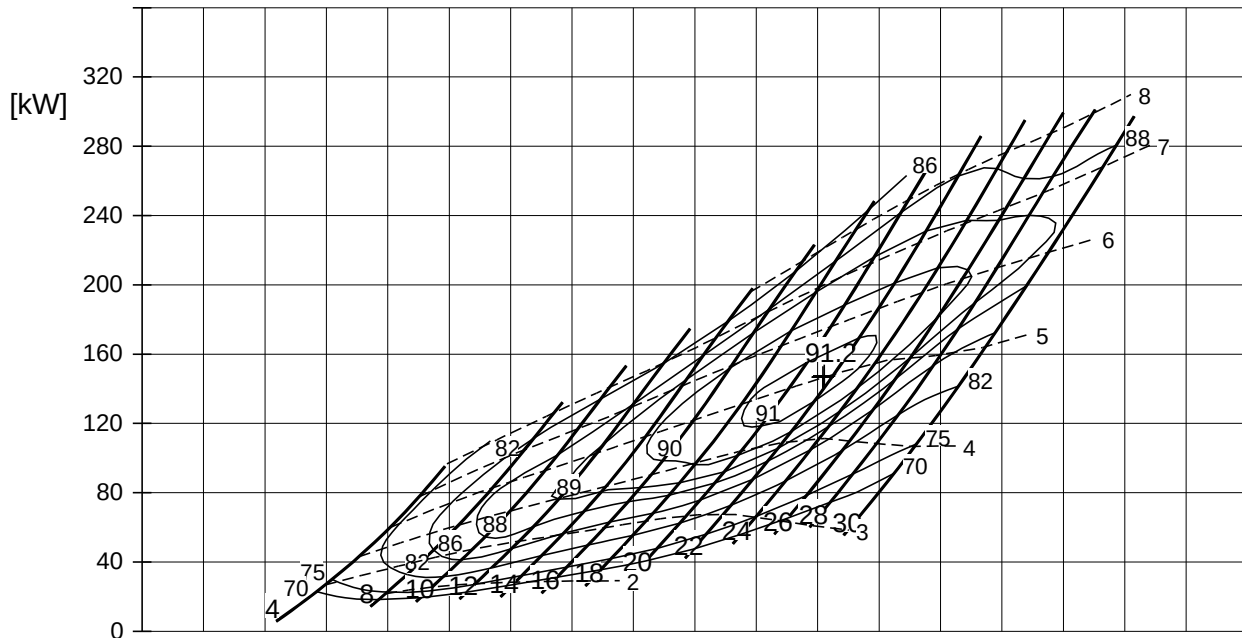
GEAR TYPE
350-13

GEAR RATIO
1: 2.333

GEAR EFFICIENCY (Load:1/1-3/4)
97.9% - 97.5%

POWER (SHAFT)

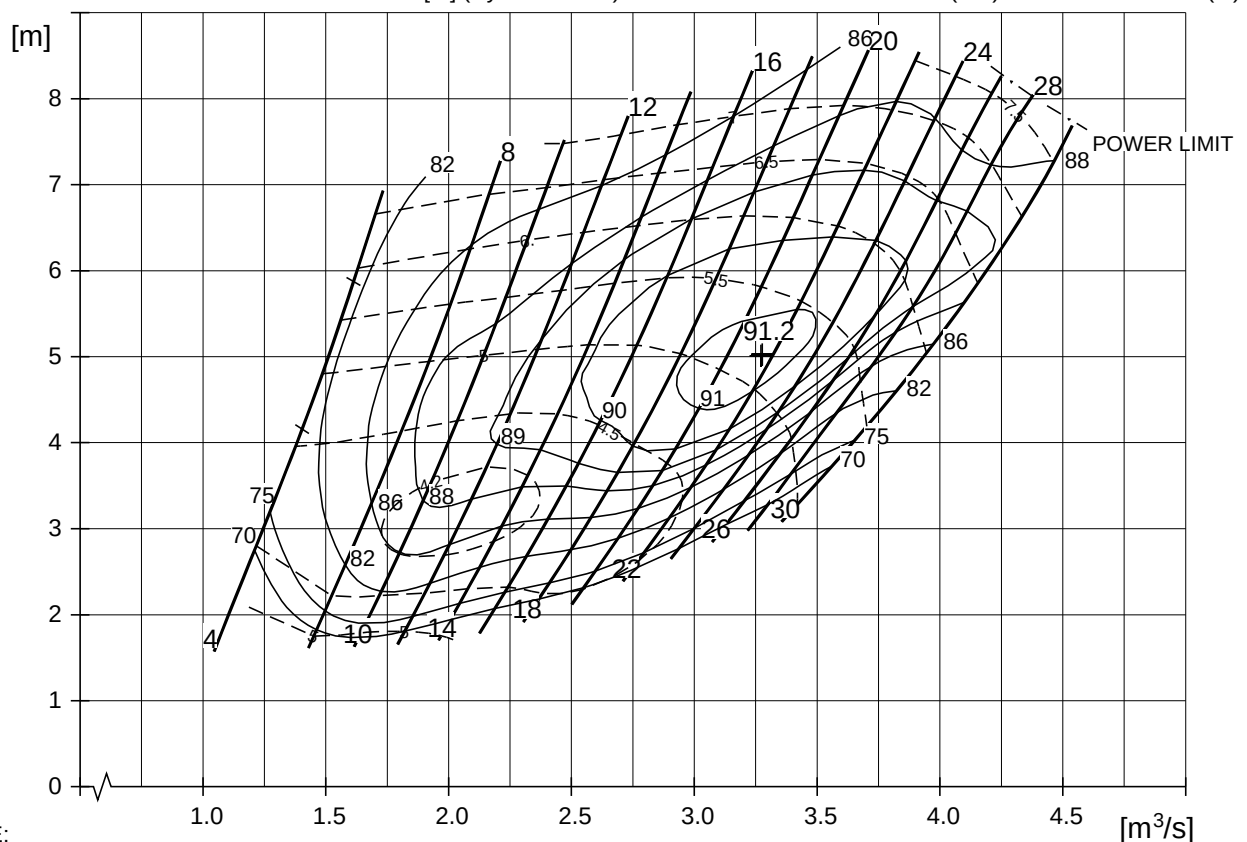
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

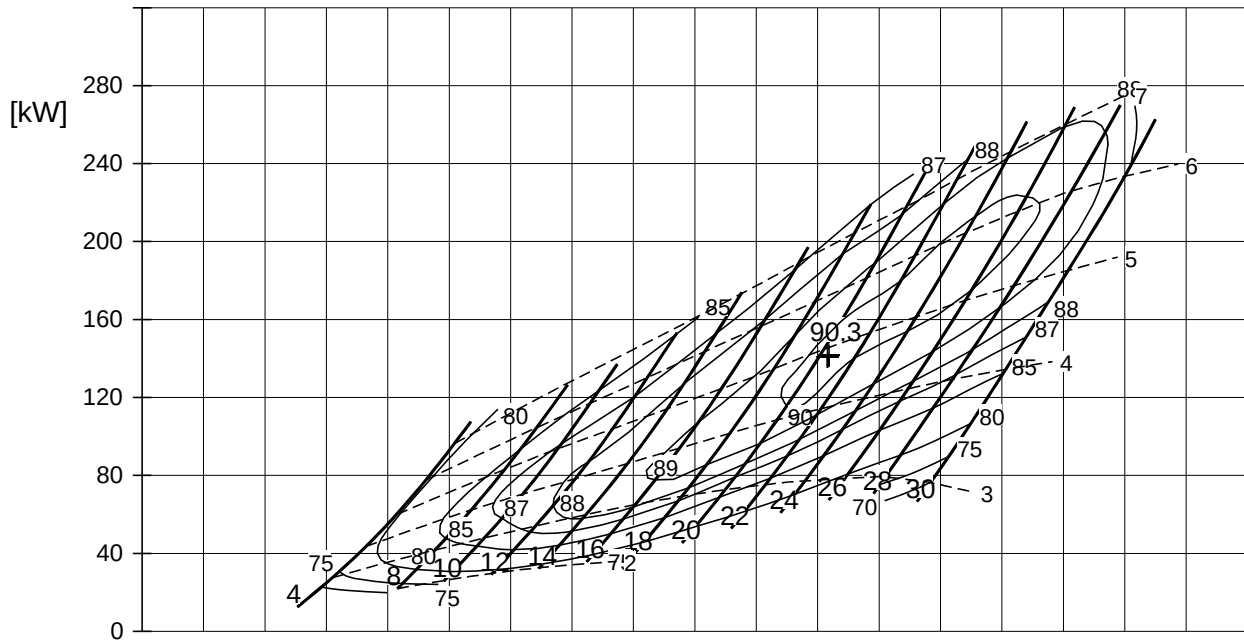
CURVE NO

53- 323C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
323 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
905GENERATOR
66-46-8AAPOLES
8GEN. POWER
300 kWGEAR TYPE
350-13GEAR RATIO
1: 2.333GEAR EFFICIENCY (Load:1/1-3/4)
97.9% - 97.5%

POWER (SHAFT)

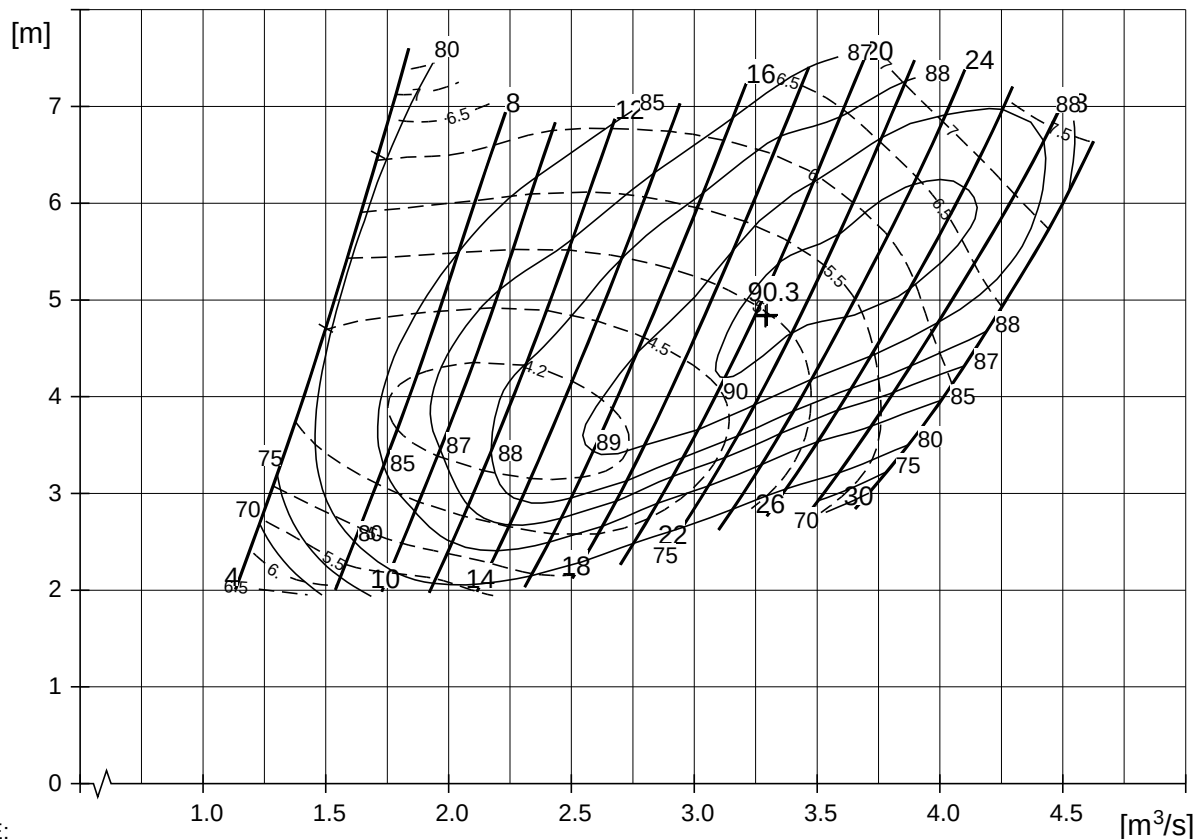
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

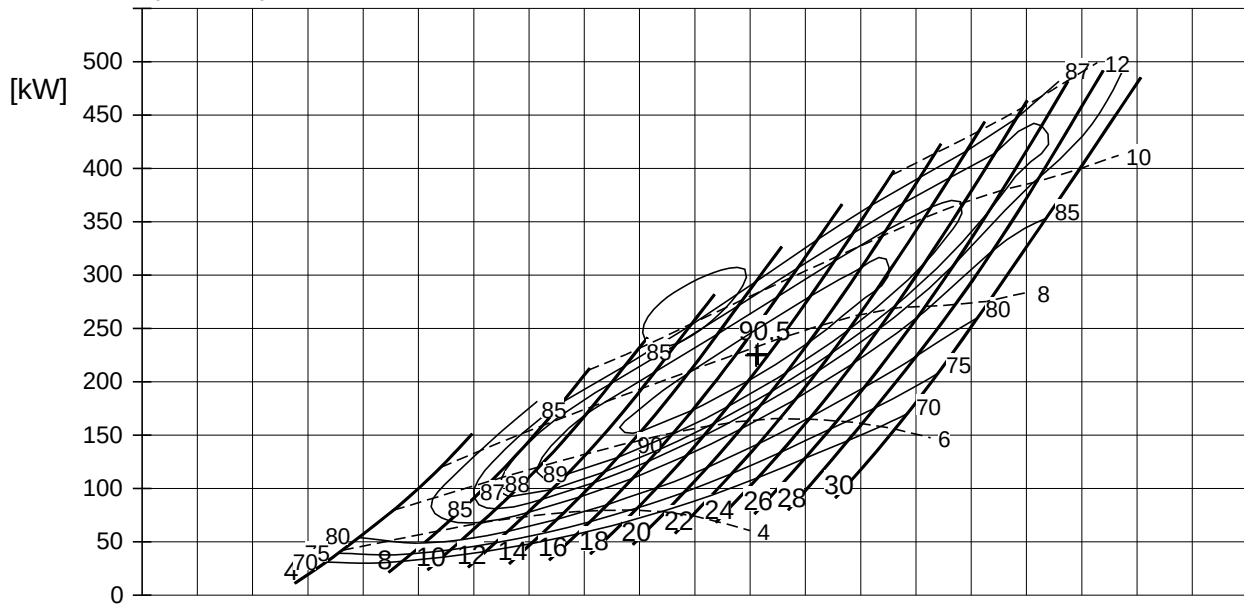
53- 378C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
378 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-56-8AA	8	350 kW	350-13	1: 2.000	97.3% - 96.8%
935	66-66-8AA	8	430	360-13	1: 2.000	98.1% - 97.8%
935	66-76-8AA	8	500	360-13	1: 2.000	98.2% - 98.0%

POWER (SHAFT)

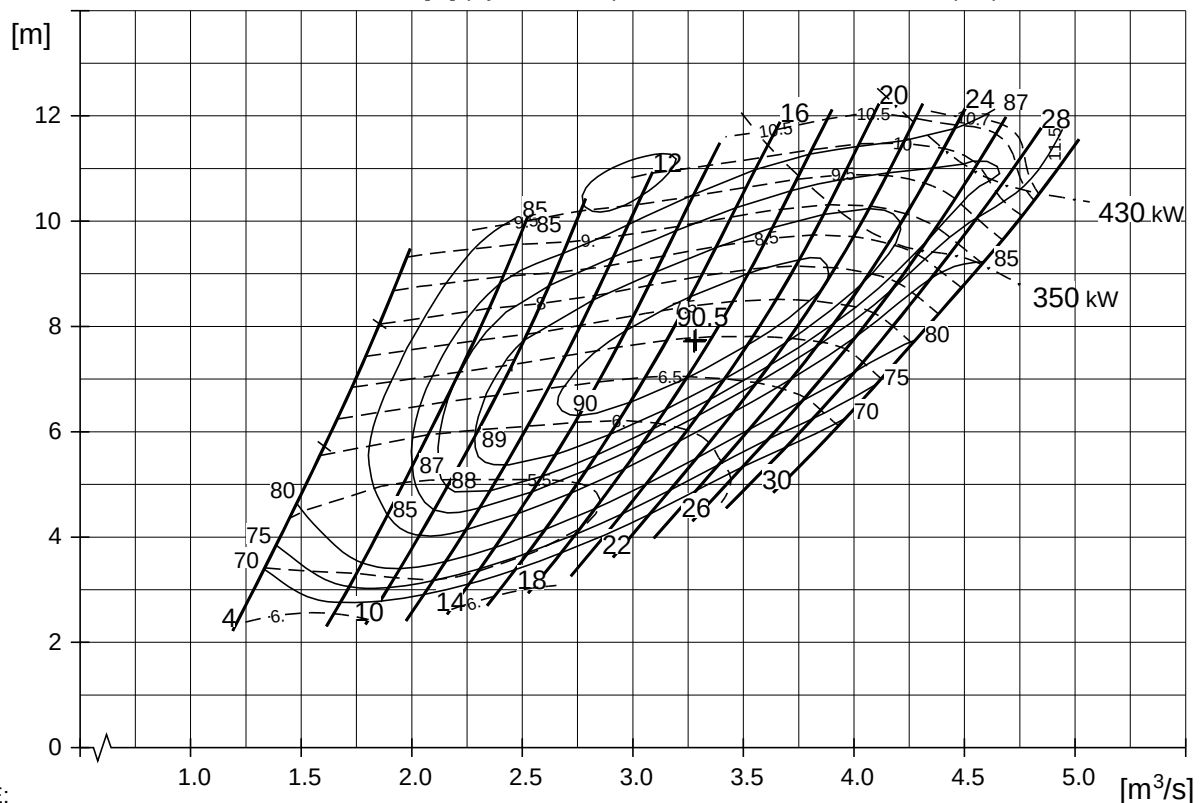
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

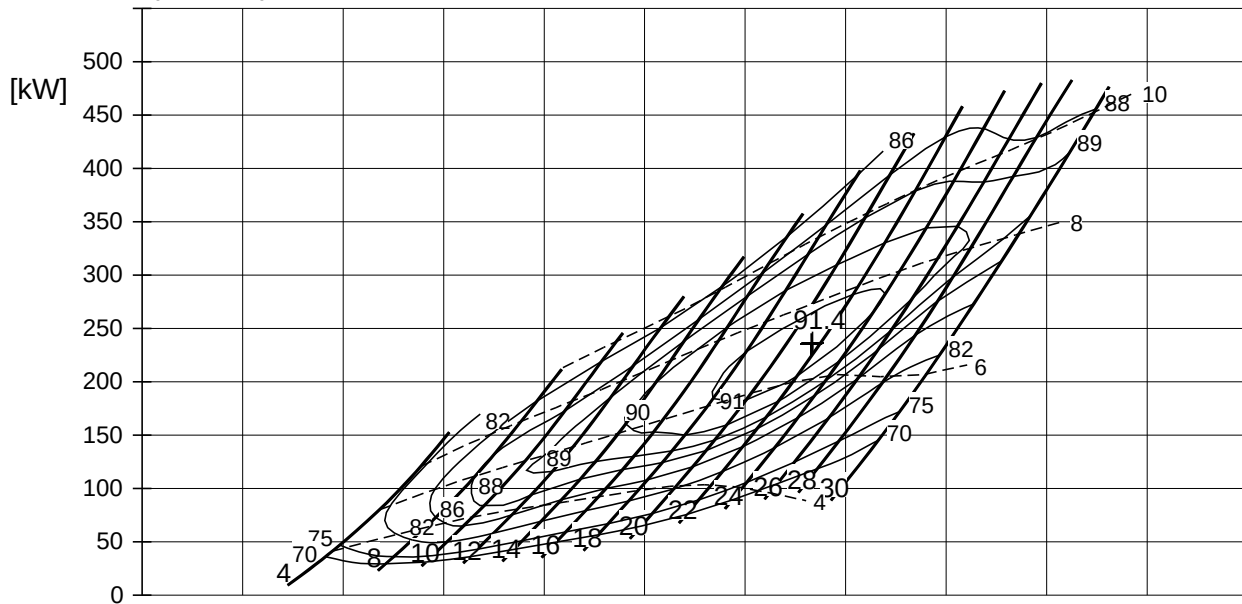
53- 378C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
378 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-56-8AA	8	350 kW	350-13	1: 2.000	97.3% - 96.8%
935	66-66-8AA	8	430	360-13	1: 2.000	98.1% - 97.8%
935	66-76-8AA	8	500	360-13	1: 2.000	98.2% - 98.0%

POWER (SHAFT)

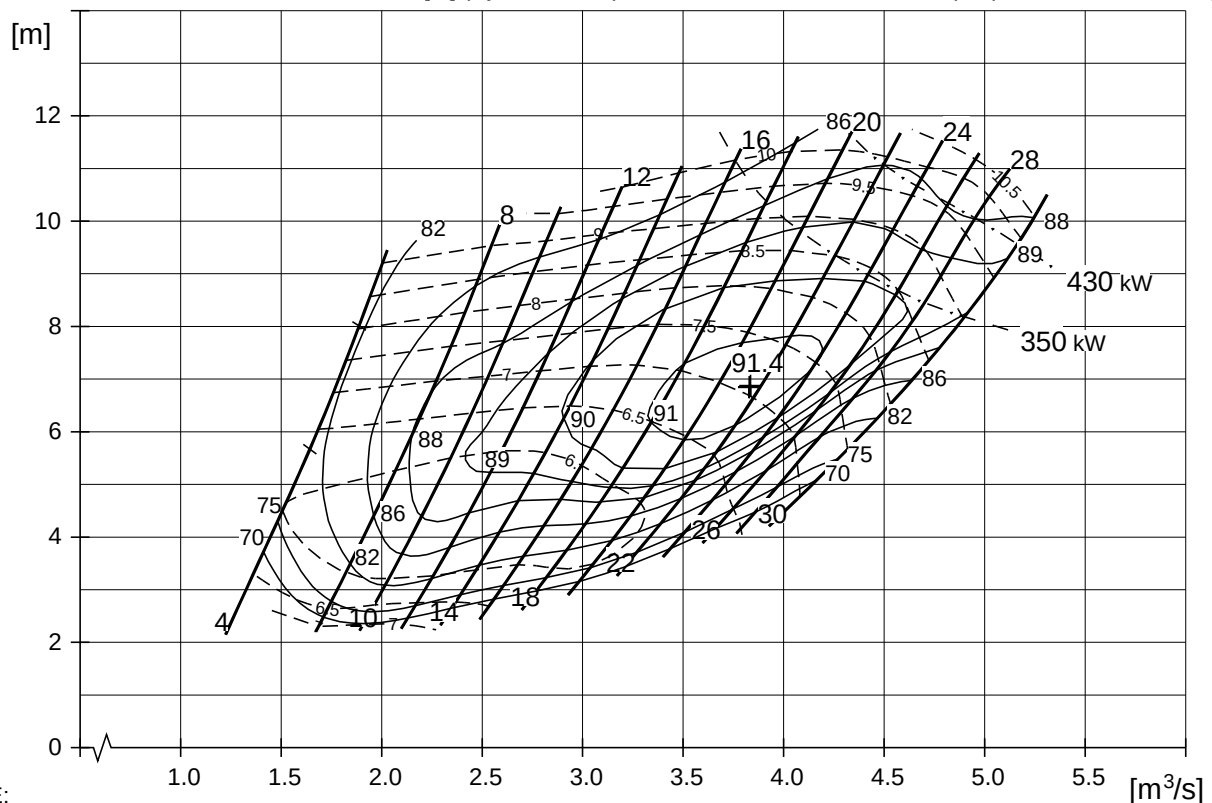
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

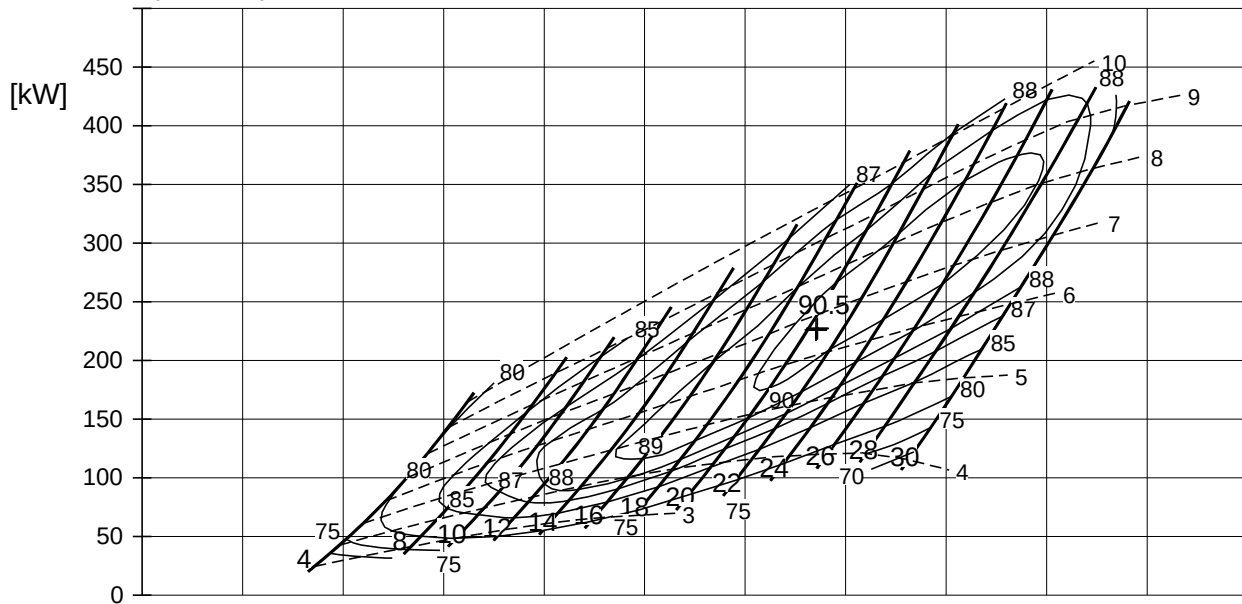
53- 378C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
378 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-56-8AA	8	350 kW	350-13	1: 2.000	97.3% - 96.8%
935	66-66-8AA	8	430	360-13	1: 2.000	98.1% - 97.8%
935	66-76-8AA	8	500	360-13	1: 2.000	98.2% - 98.0%

POWER (SHAFT)

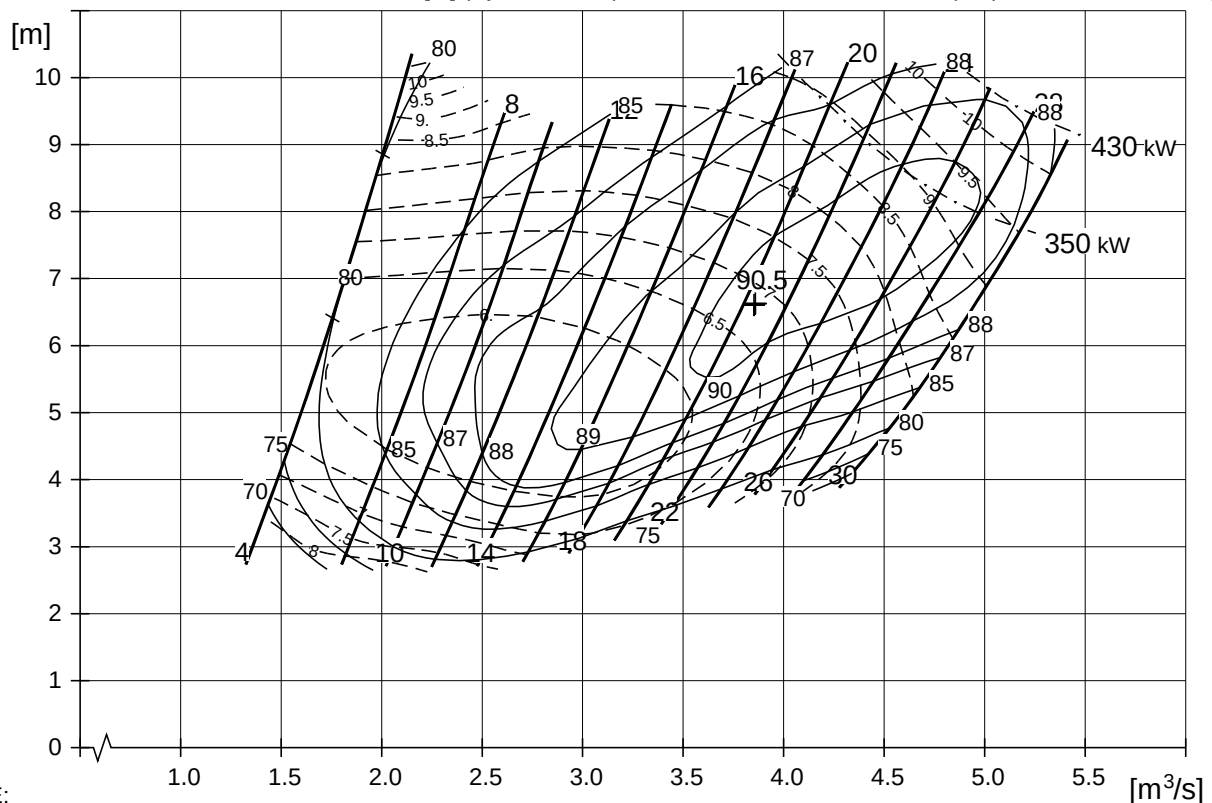
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

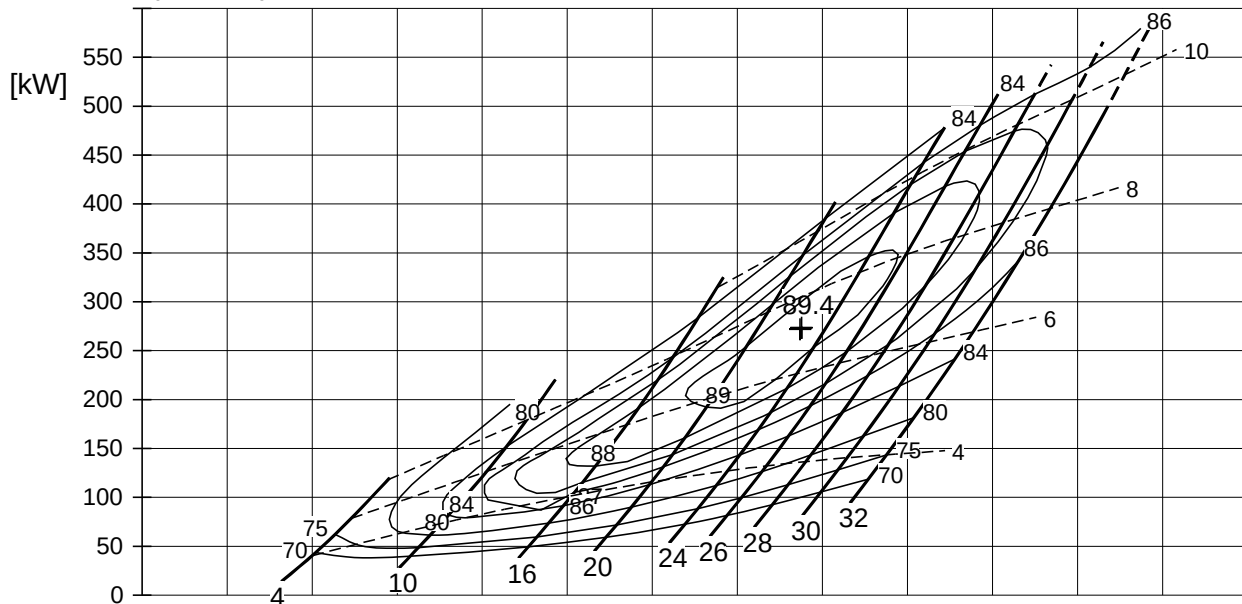
53- 378C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
378 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-56-8AA	8	350 kW	350-13	1: 2.000	97.3% - 96.8%
935	66-66-8AA	8	430	360-13	1: 2.000	98.1% - 97.8%
935	66-76-8AA	8	500	360-13	1: 2.000	98.2% - 98.0%

POWER (SHAFT)

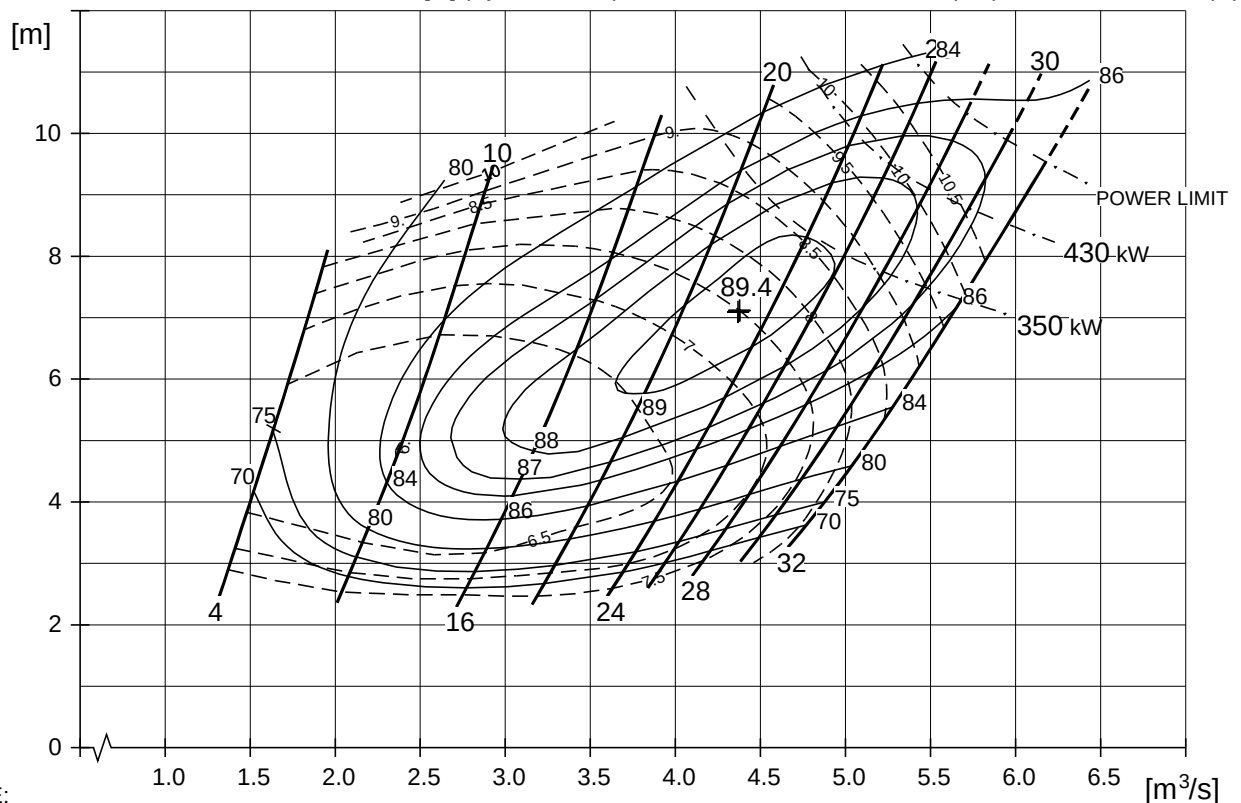
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

53- 451 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
451 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
935GENERATOR
66-66-8AAPOLES
8GEN. POWER
430 kWGEAR TYPE
360-13GEAR RATIO
1: 1.674GEAR EFFICIENCY (Load:1/1-3/4)
97.9% - 97.6%

935

66-76-8AA

8

500

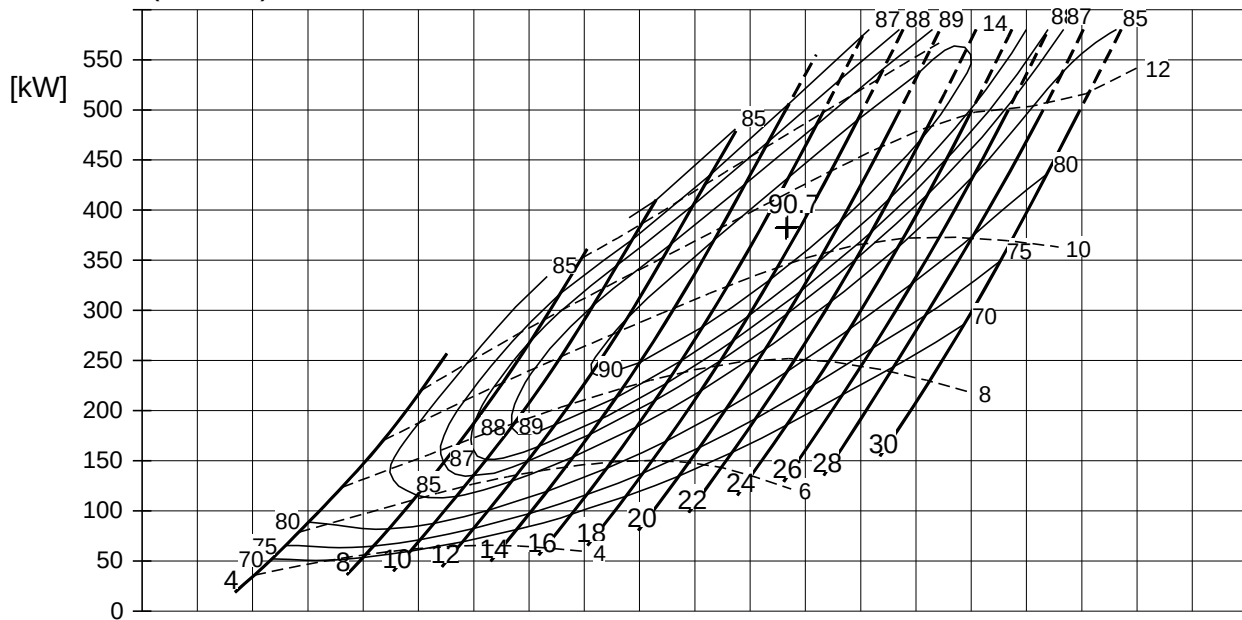
360-13

1: 1.674

98.0% - 97.8%

POWER (SHAFT)

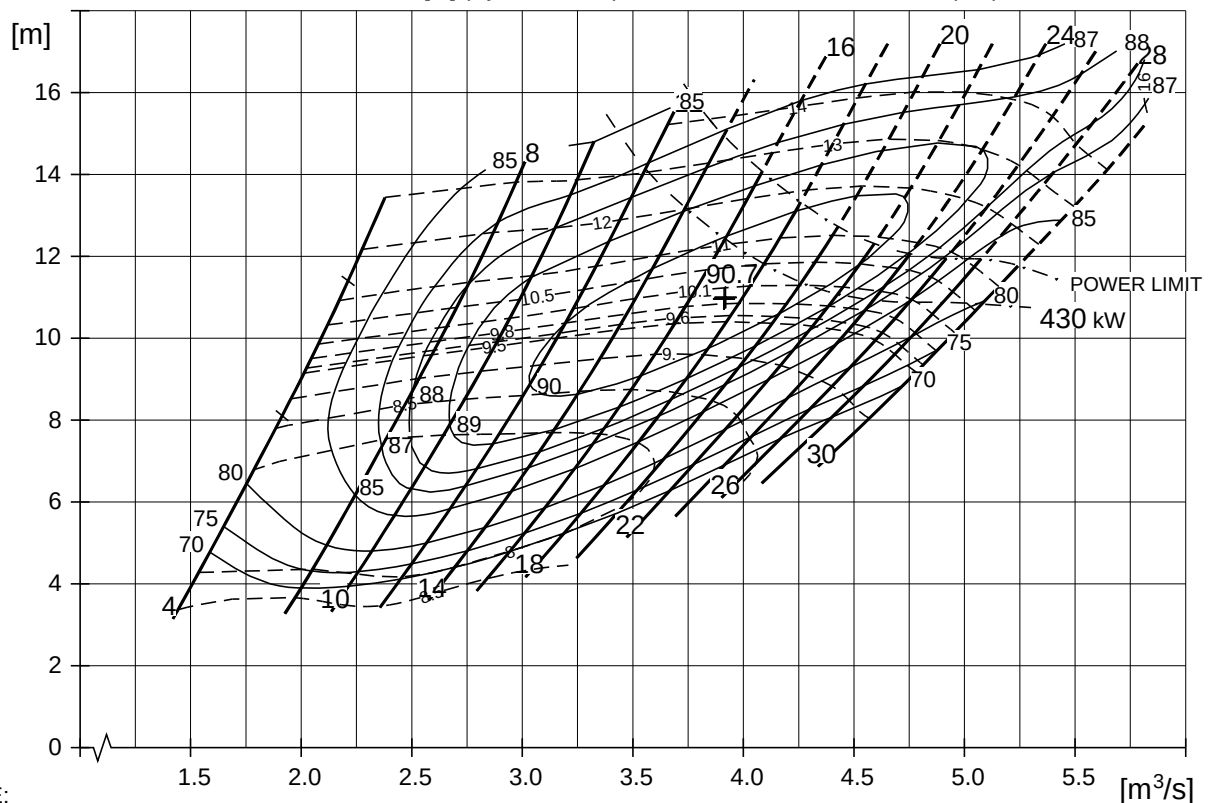
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

53- 451 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
451 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
935GENERATOR
66-66-8AAPOLES
8GEN. POWER
430 kWGEAR TYPE
360-13GEAR RATIO
1: 1.674GEAR EFFICIENCY (Load:1/1-3/4)
97.9% - 97.6%

935

66-76-8AA

8

500

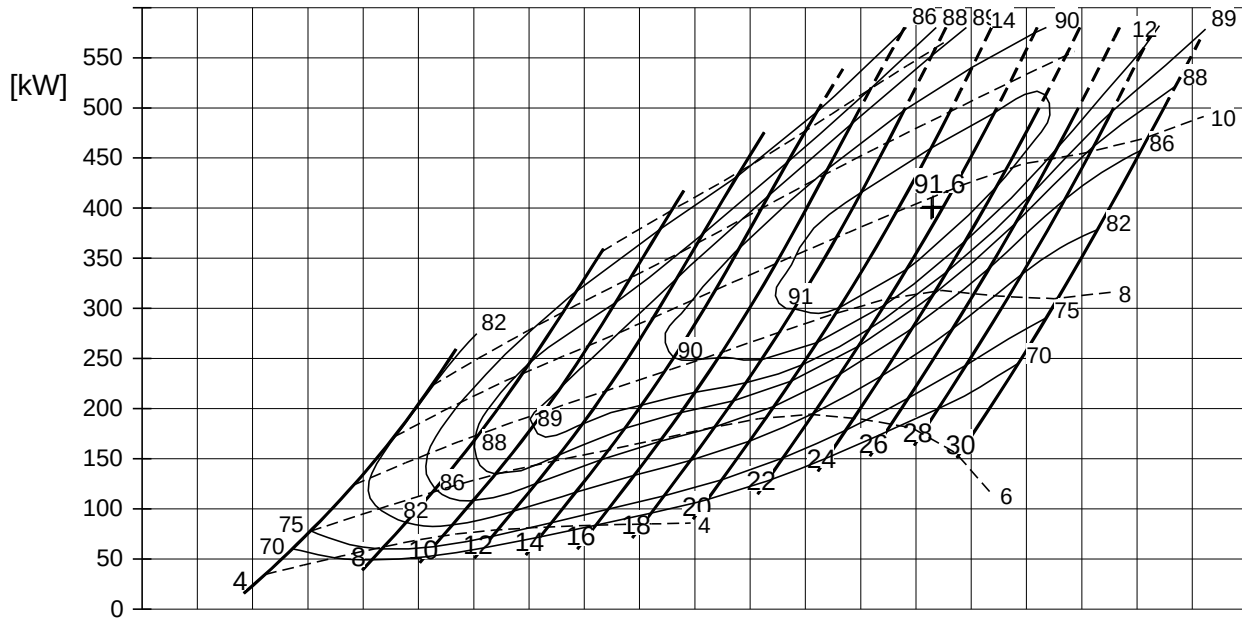
360-13

1: 1.674

98.0% - 97.8%

POWER (SHAFT)

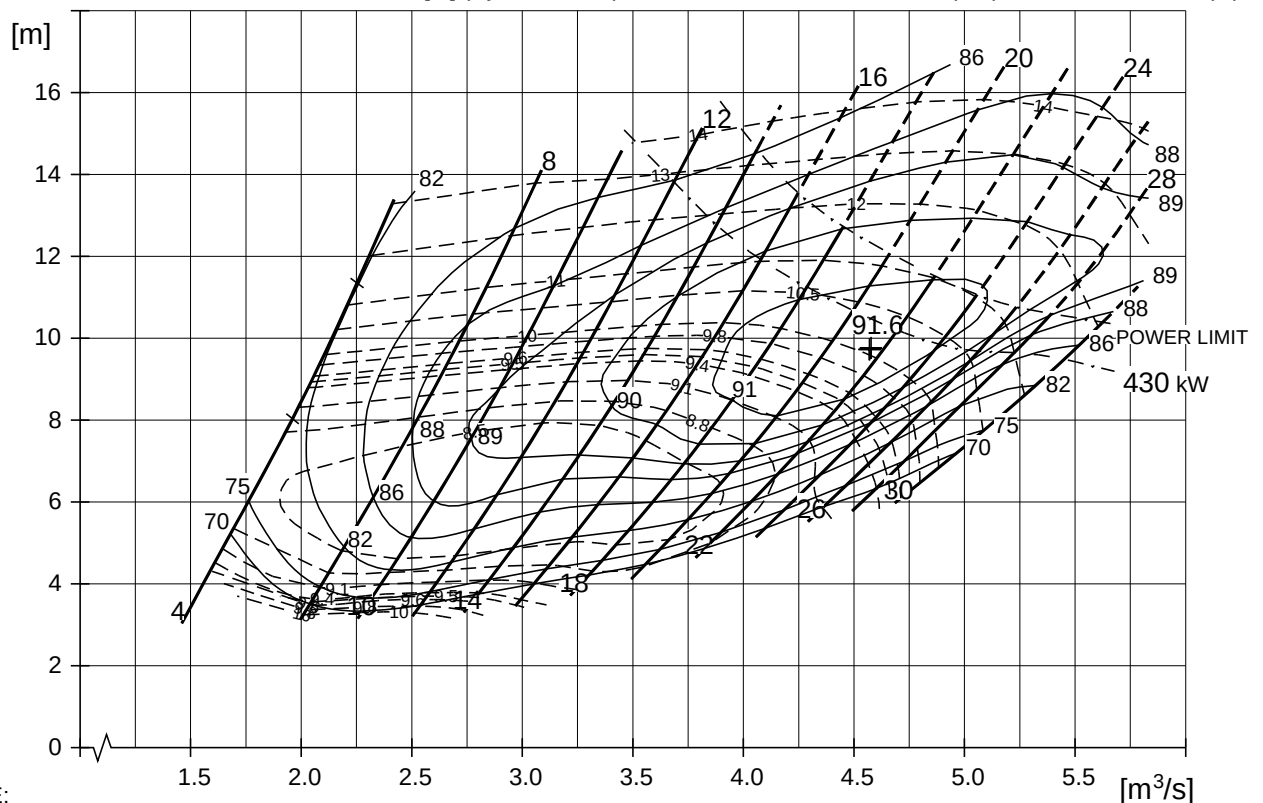
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

53- 451 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
451 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 degDRIVE UNIT
935GENERATOR
66-66-8AAPOLES
8GEN. POWER
430 kWGEAR TYPE
360-13GEAR RATIO
1: 1.674GEAR EFFICIENCY (Load:1/1-3/4)
97.9% - 97.6%

935

66-76-8AA

8

500

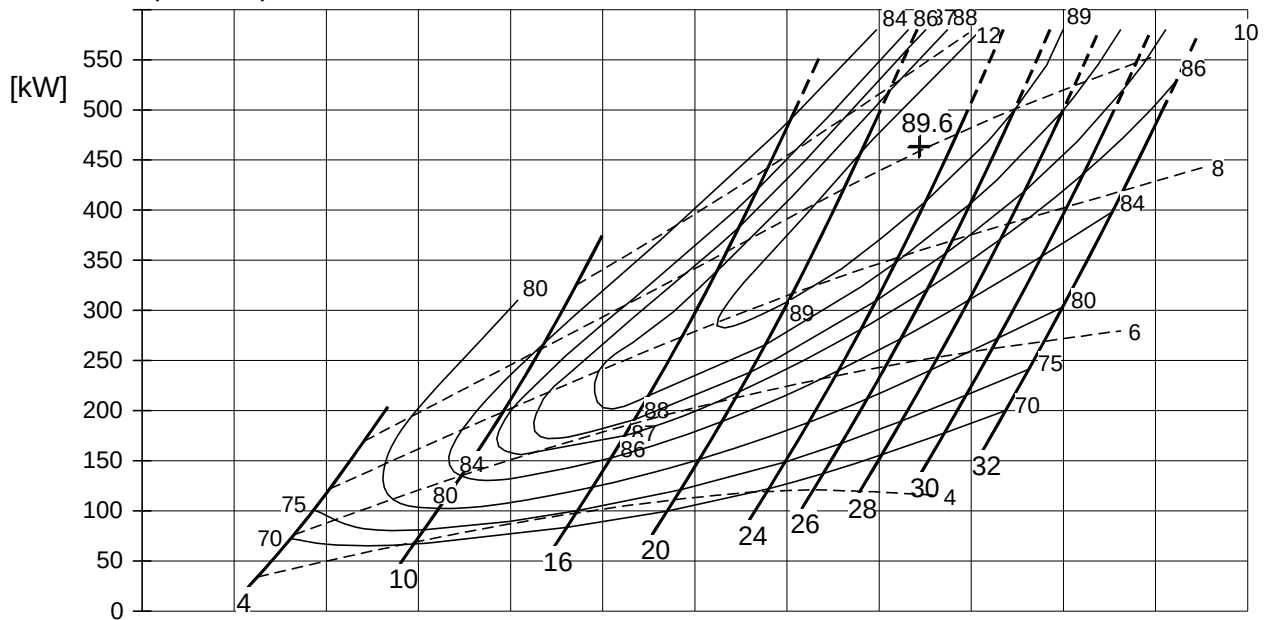
360-13

1: 1.674

98.0% - 97.8%

POWER (SHAFT)

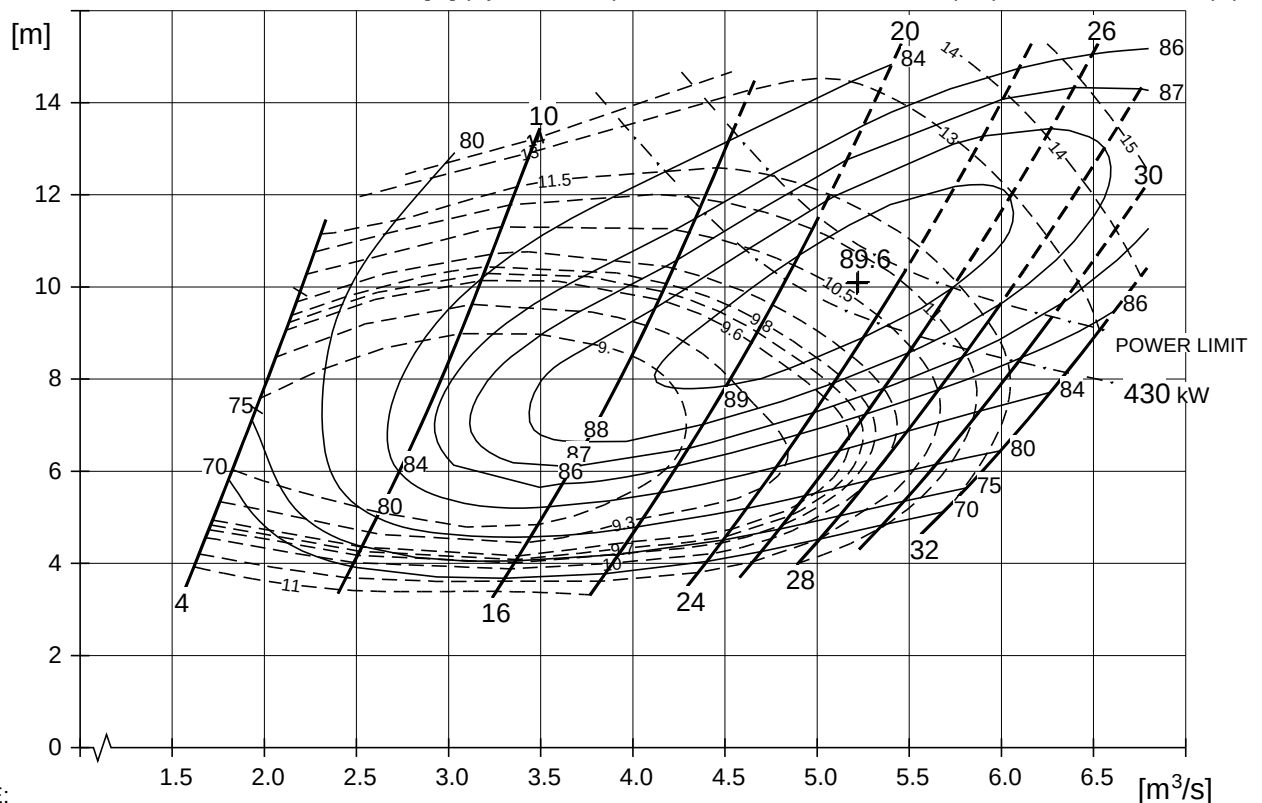
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

53- 203 C4E

DATE
2016-02-14

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
203 RPM

IMPELLER/HUB DIAMETER
1000 / 480 mm

GUIDE VANE(S)
50 deg

NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT
705

GENERATOR
43-30-6BC

POLES
6

GEN. POWER
110 kW

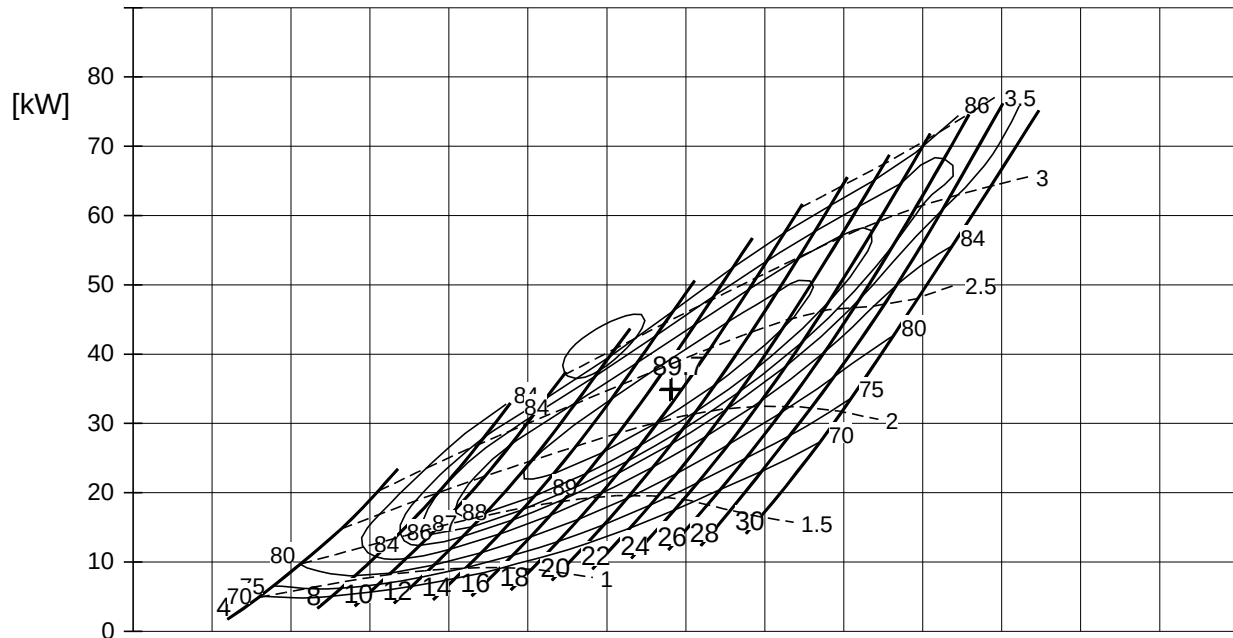
GEAR TYPE
350-12

GEAR RATIO
1: 5.000

GEAR EFFICIENCY (Load:1/1-3/4)
94.6% - 93.3%

POWER (SHAFT)

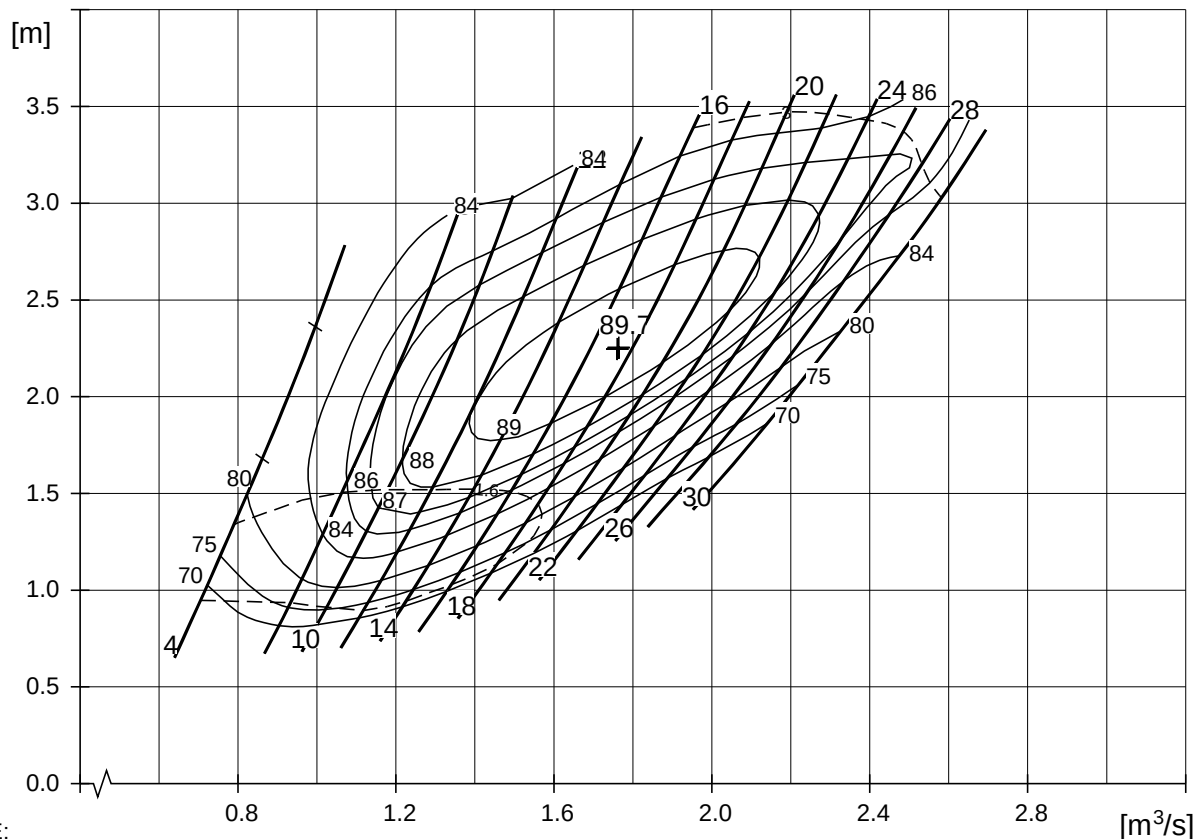
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

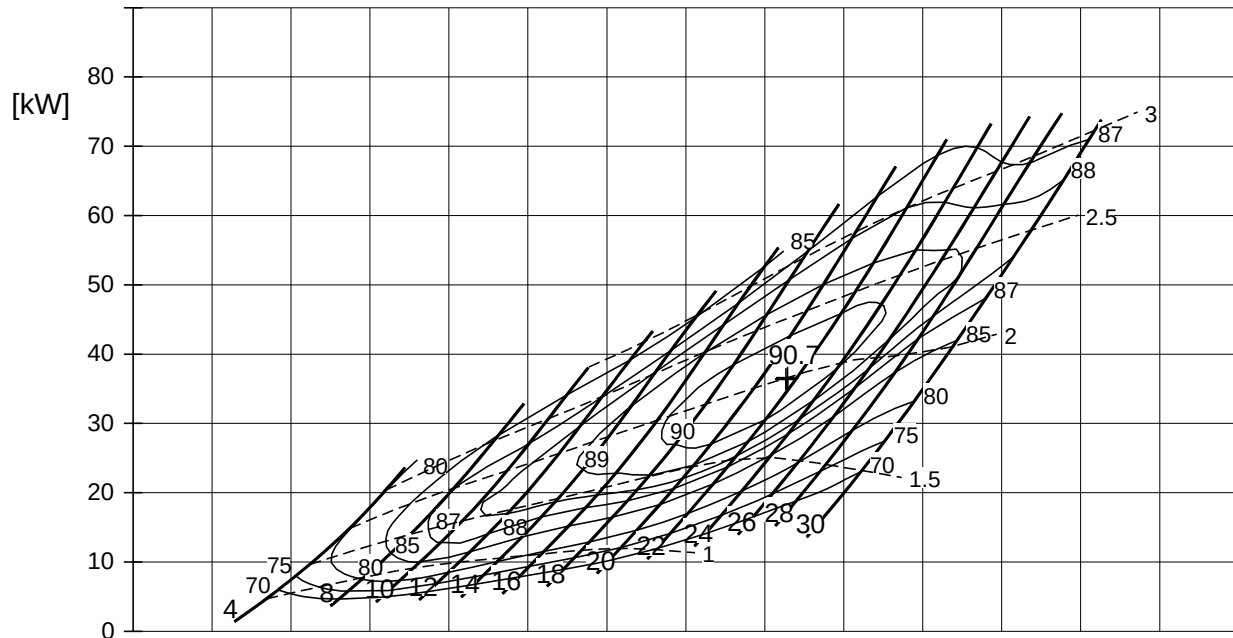
CURVE NO

53- 203 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
203 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
705GENERATOR
43-30-6BCPOLES
6GEN. POWER
110 kWGEAR TYPE
350-12GEAR RATIO
1: 5.000GEAR EFFICIENCY (Load:1/1-3/4)
94.6% - 93.3%

POWER (SHAFT)

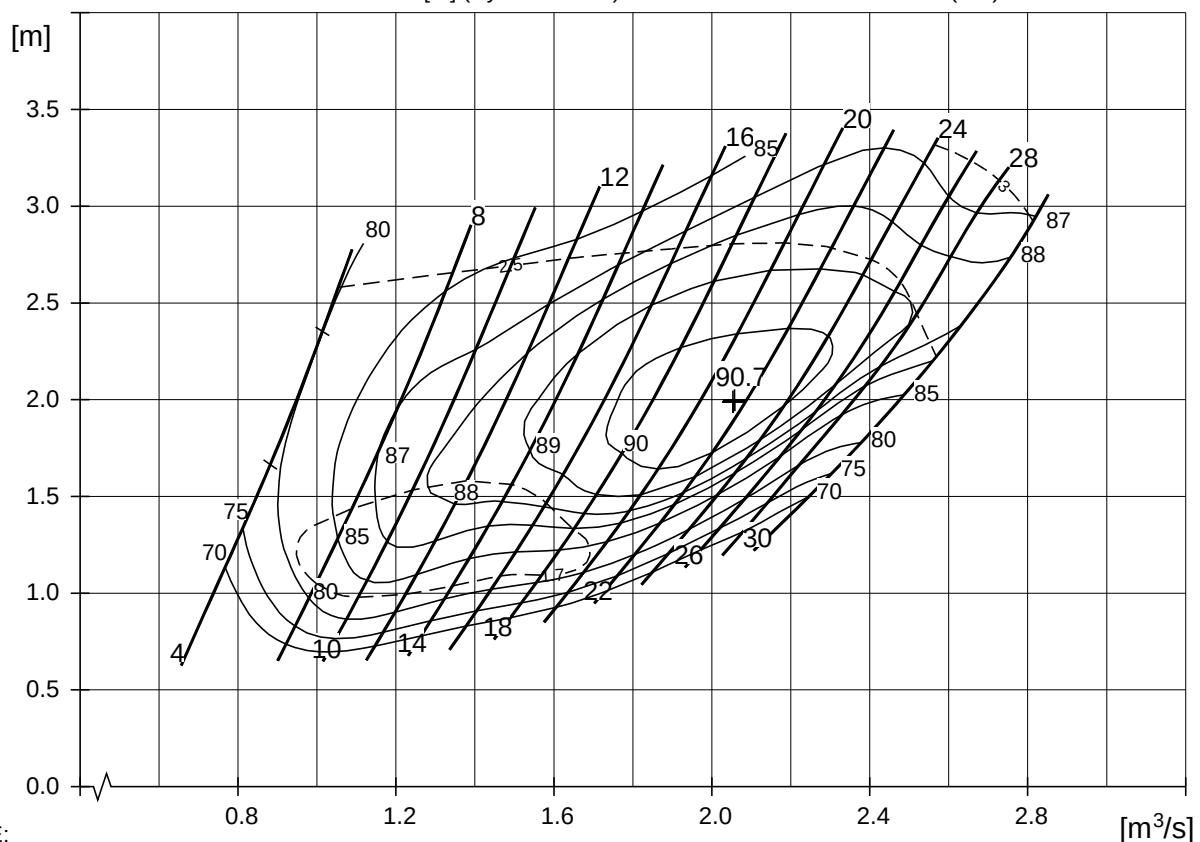
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

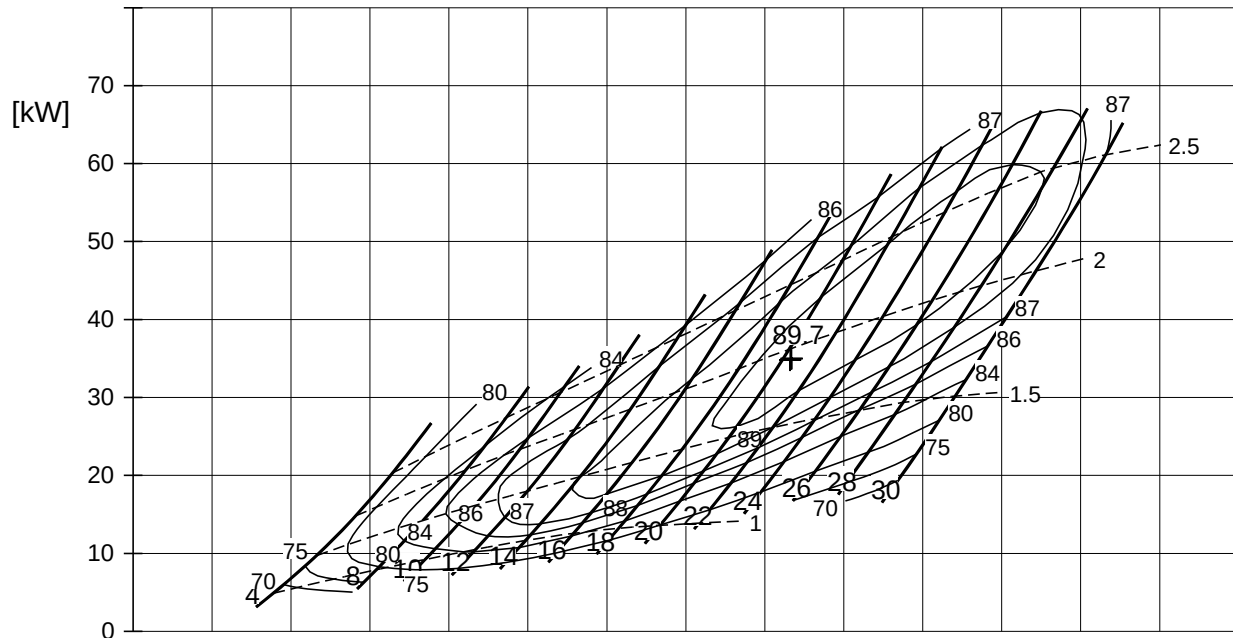
CURVE NO

53- 203 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
203 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
705GENERATOR
43-30-6BCPOLES
6GEN. POWER
110 kWGEAR TYPE
350-12GEAR RATIO
1: 5.000GEAR EFFICIENCY (Load:1/1-3/4)
94.6% - 93.3%

POWER (SHAFT)

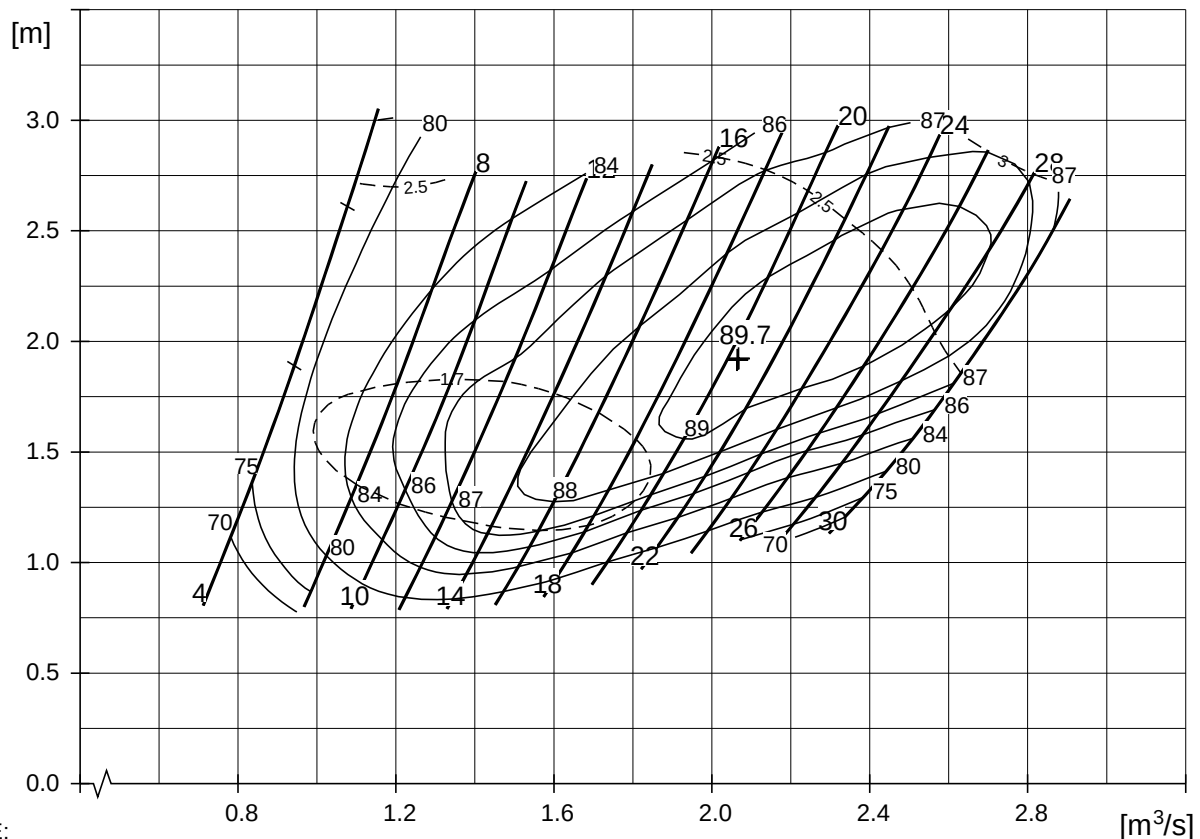
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

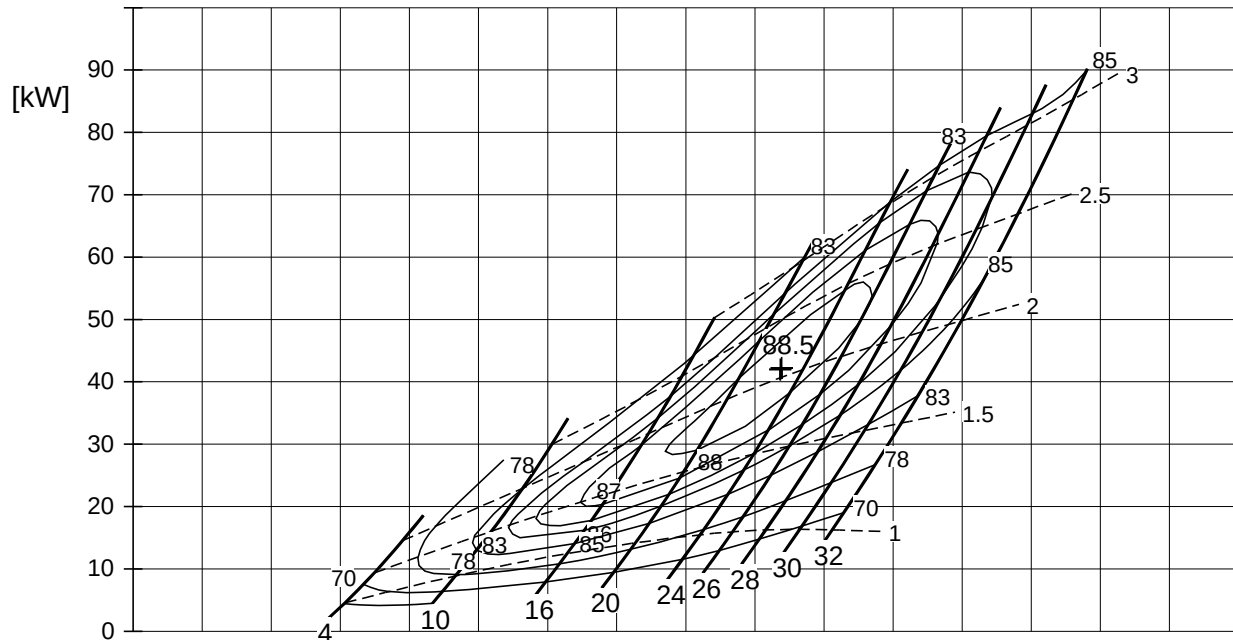
CURVE NO

53- 203 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
203 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 degDRIVE UNIT
705GENERATOR
43-30-6BCPOLES
6GEN. POWER
110 kWGEAR TYPE
350-12GEAR RATIO
1: 5.000GEAR EFFICIENCY (Load:1/1-3/4)
94.6% - 93.3%

POWER (SHAFT)

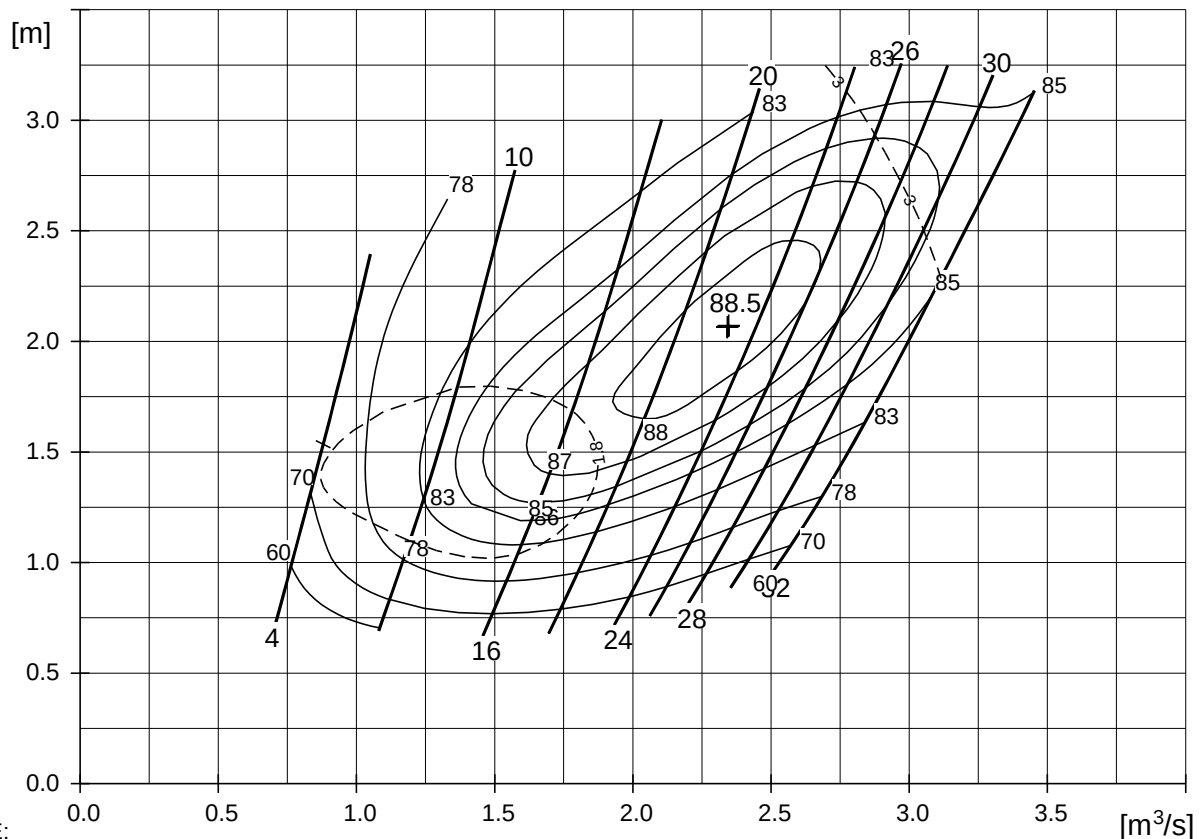
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

53- 226 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
226 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
705GENERATOR
43-30-6BCPOLES
6GEN. POWER
110 kWGEAR TYPE
350-12GEAR RATIO
1: 4.500GEAR EFFICIENCY (Load:1/1-3/4)
94.2% - 92.8%

735

43-44-6BC

6

160

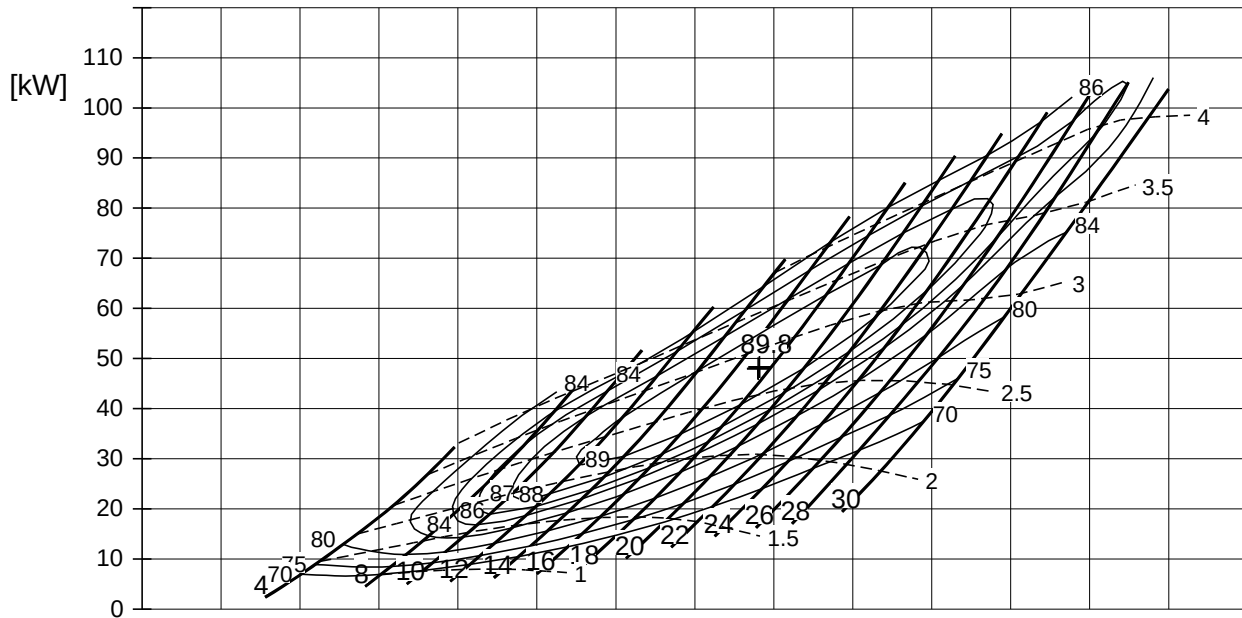
350-12

1: 4.500

95.5% - 94.5%

POWER (SHAFT)

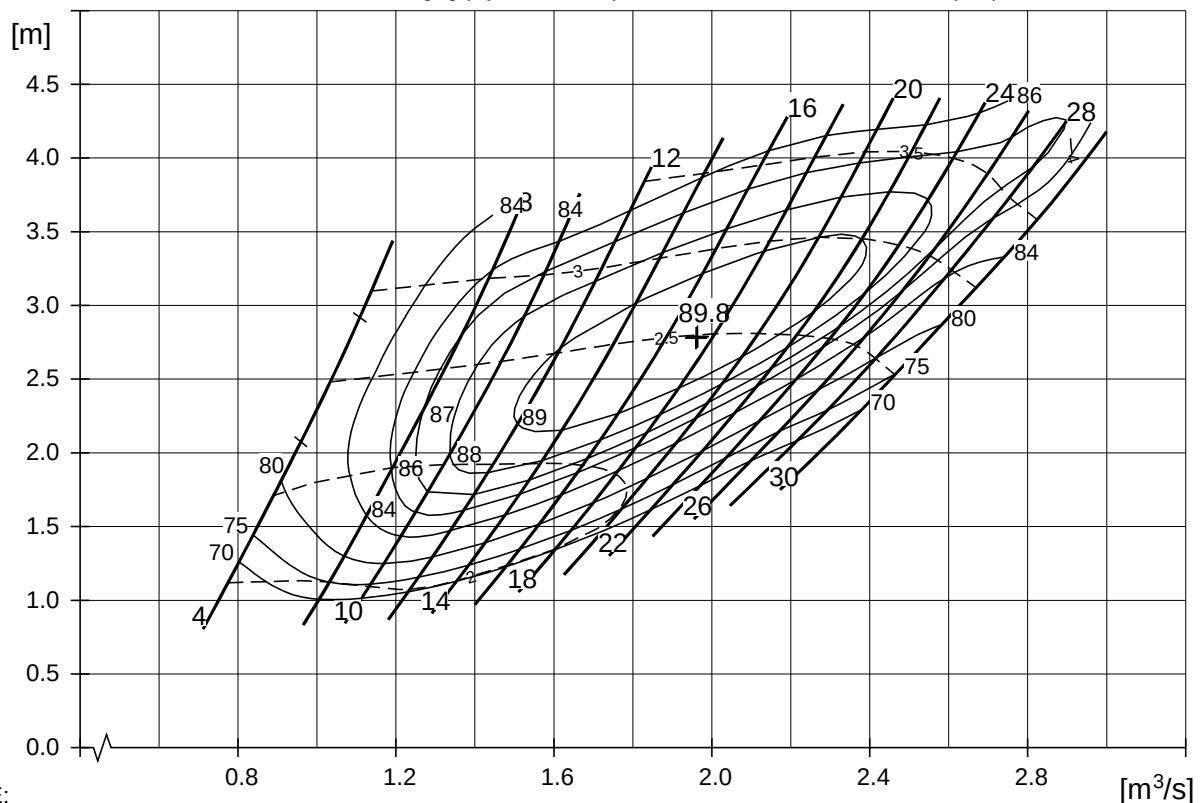
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

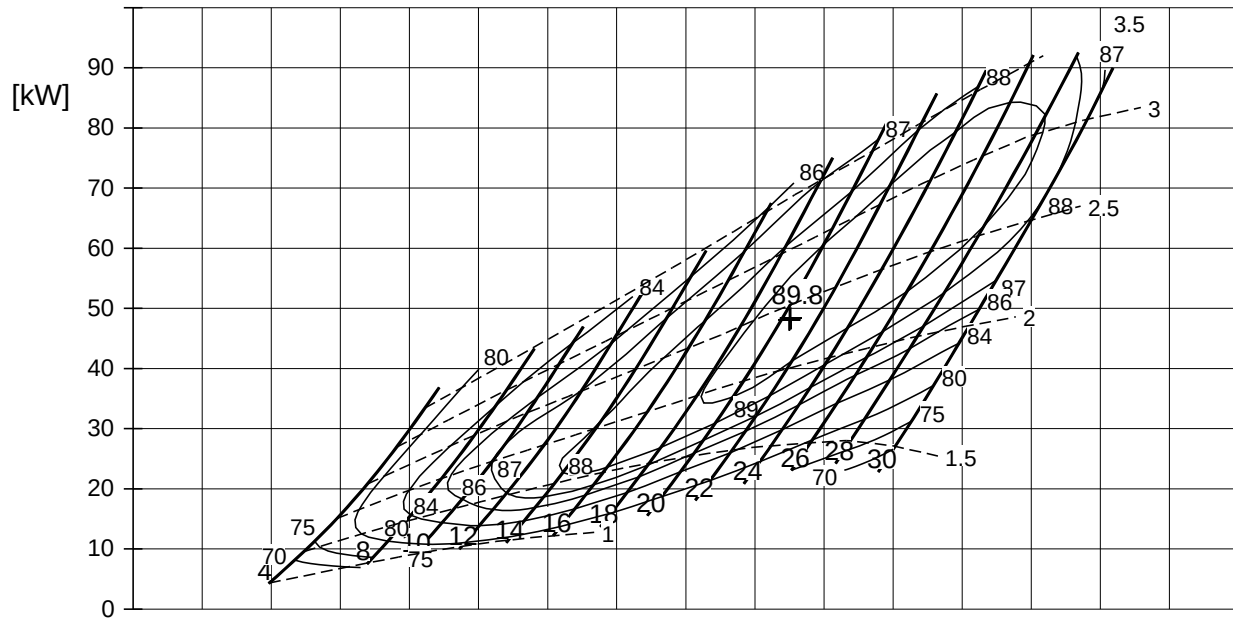
CURVE NO

53- 226 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
226 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
705
735GENERATOR
43-30-6BC
43-44-6BCPOLES
6
6GEN. POWER
110 kW
160GEAR TYPE
350-12
350-12GEAR RATIO
1: 4.500
1: 4.500GEAR EFFICIENCY (Load:1/1-3/4)
94.2% - 92.8%
95.5% - 94.5%

POWER (SHAFT)

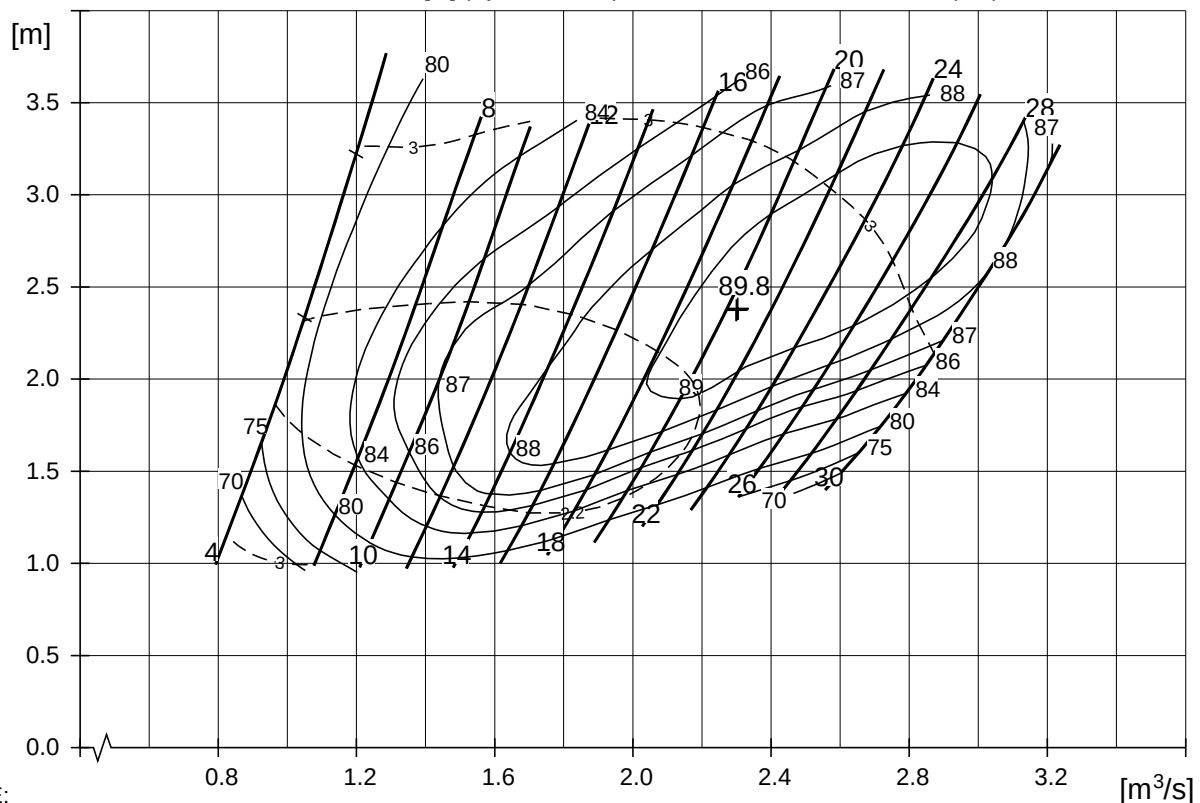
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

53- 226 C4E

DATE
2016-02-14

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
226 RPM

IMPELLER/HUB DIAMETER
1000 / 480 mm

GUIDE VANE(S)
70 deg

NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT
705
735

GENERATOR
43-30-6BC
43-44-6BC

POLES
6
6

GEN. POWER
110 kW
160

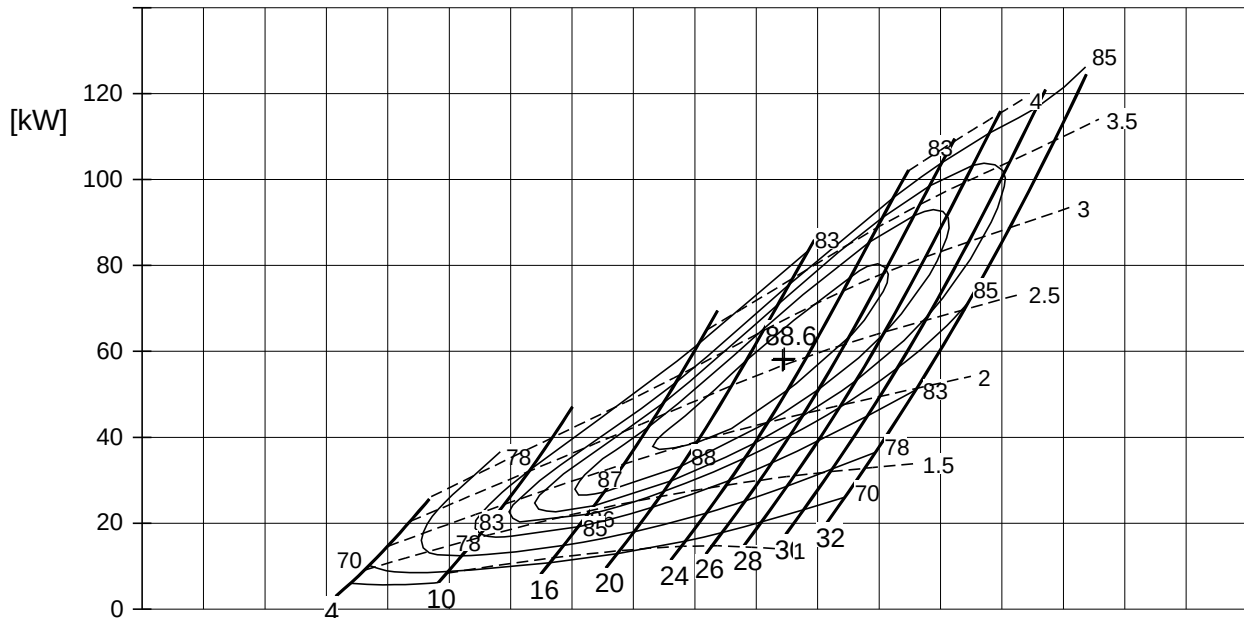
GEAR TYPE
350-12
350-12

GEAR RATIO
1: 4.500
1: 4.500

GEAR EFFICIENCY (Load:1/1-3/4)
94.2% - 92.8%
95.5% - 94.5%

POWER (SHAFT)

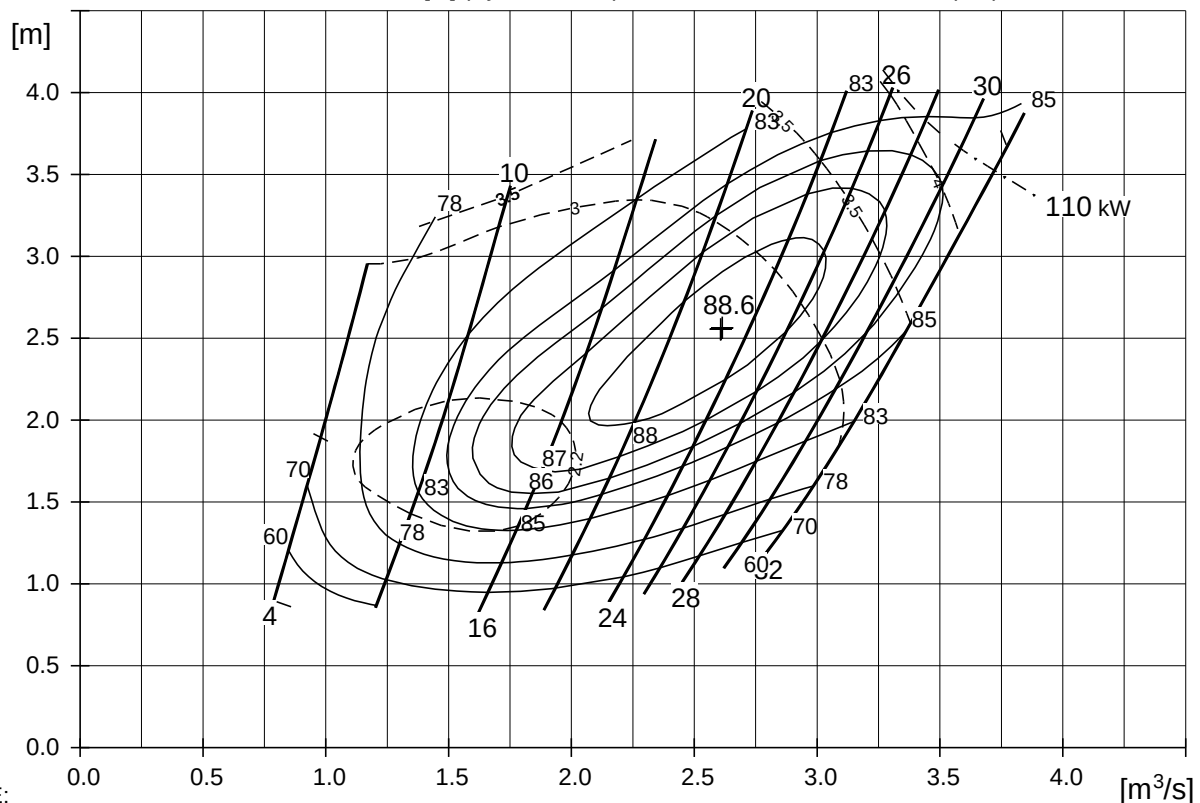
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

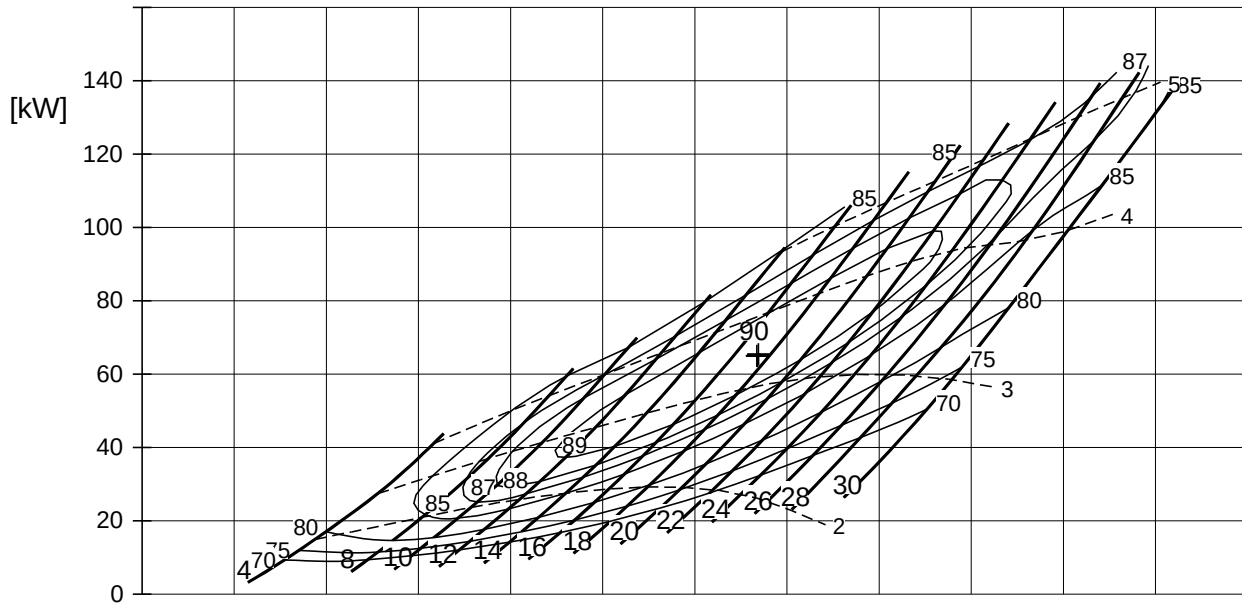
53- 250 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
250 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-12	1: 4.034	93.8% - 92.4%
735	43-44-6BC	6	160	350-12	1: 4.034	95.2% - 94.1%
765	43-56-6BC	6	200	350-12	1: 4.034	95.9% - 95.0%

POWER (SHAFT)

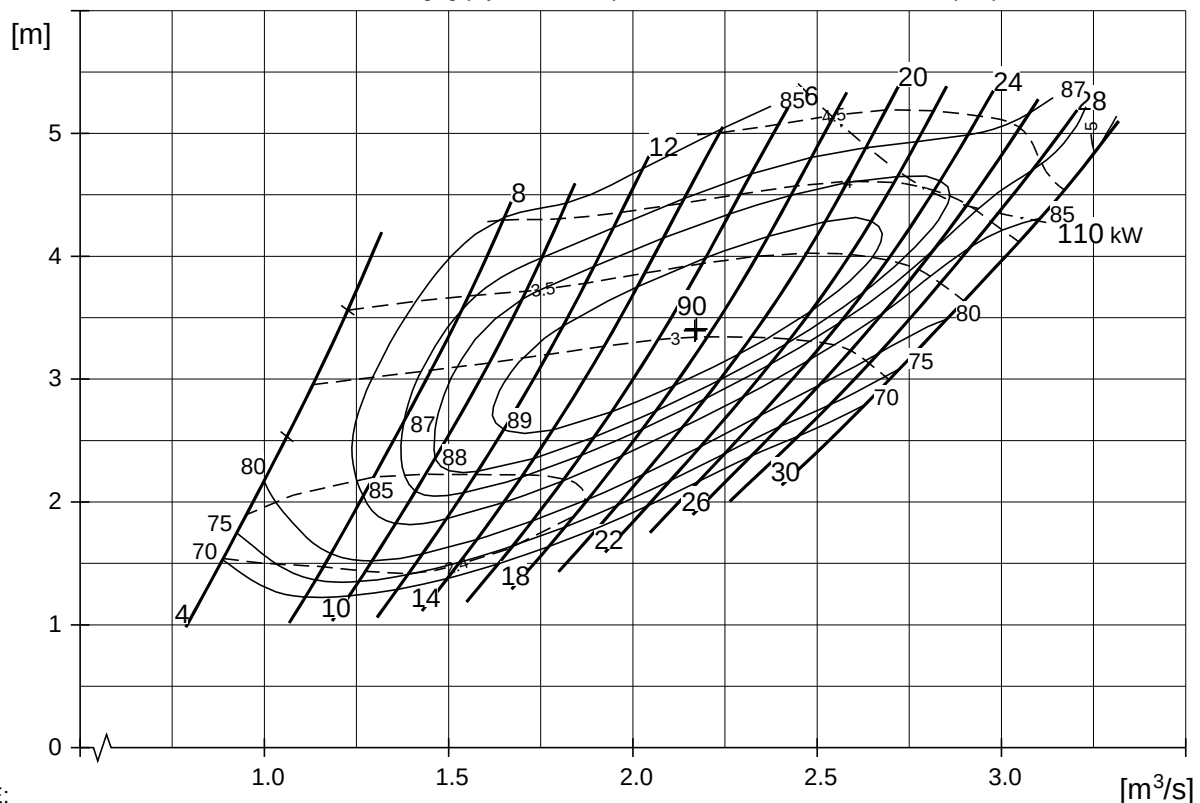
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

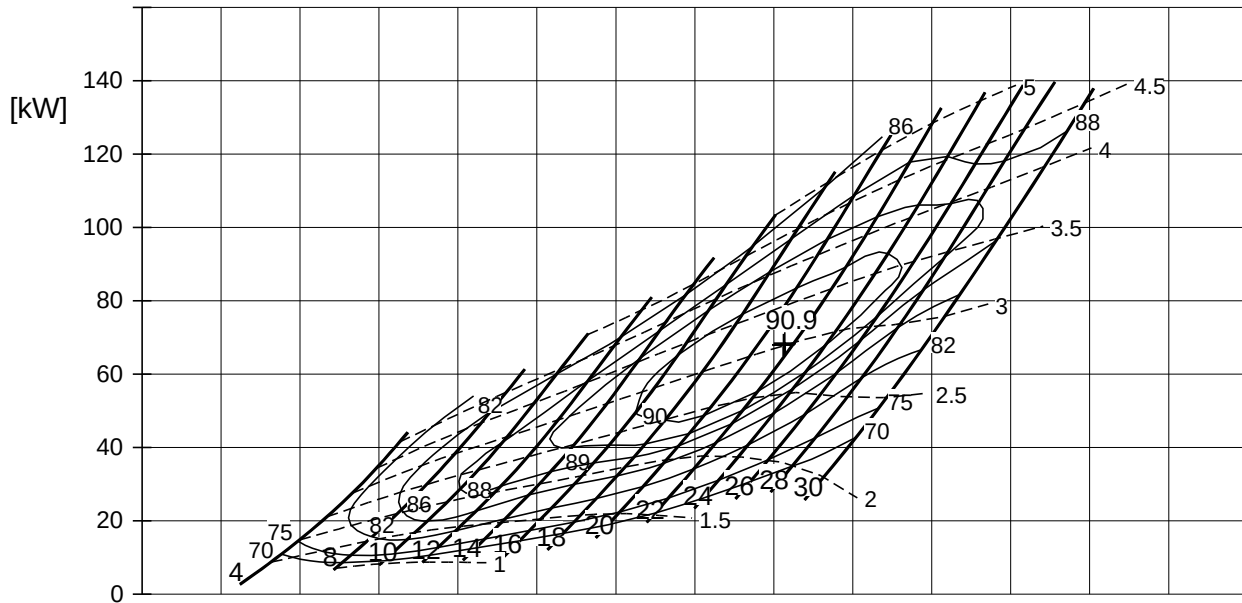
53- 250 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
250 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-12	1: 4.034	93.8% - 92.4%
735	43-44-6BC	6	160	350-12	1: 4.034	95.2% - 94.1%
765	43-56-6BC	6	200	350-12	1: 4.034	95.9% - 95.0%

POWER (SHAFT)

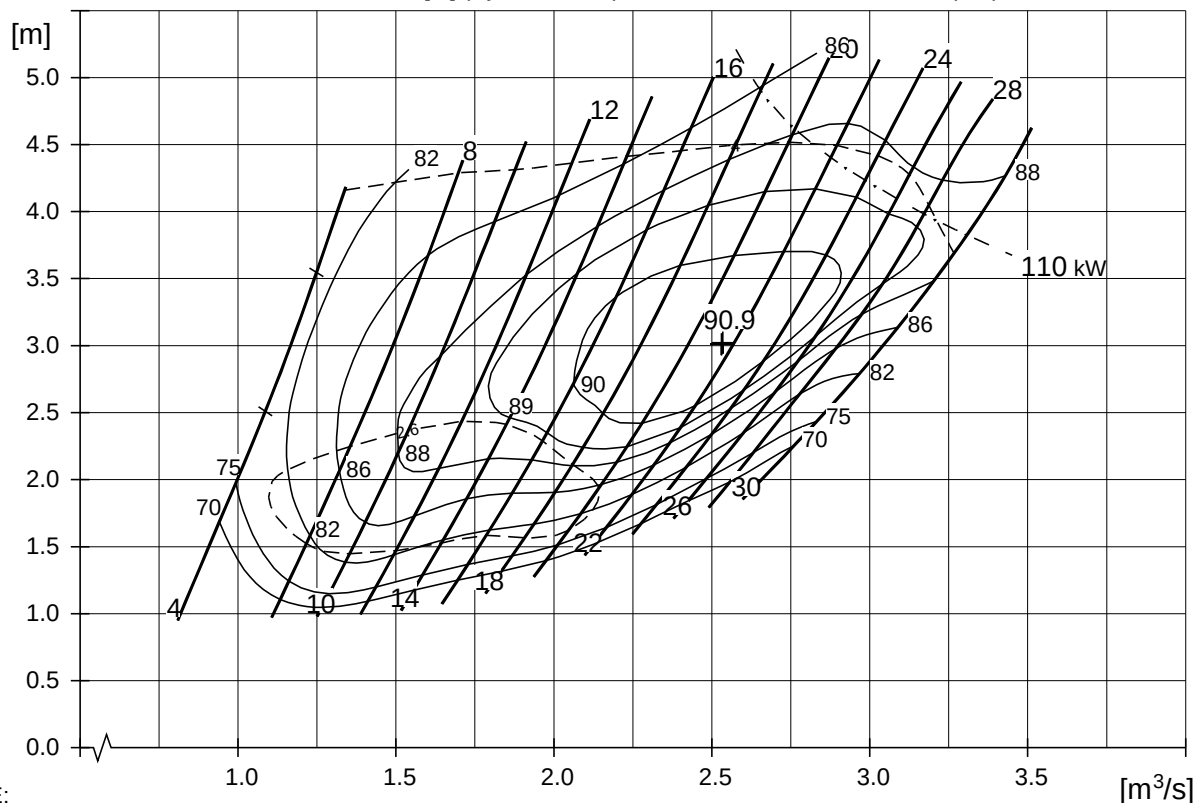
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

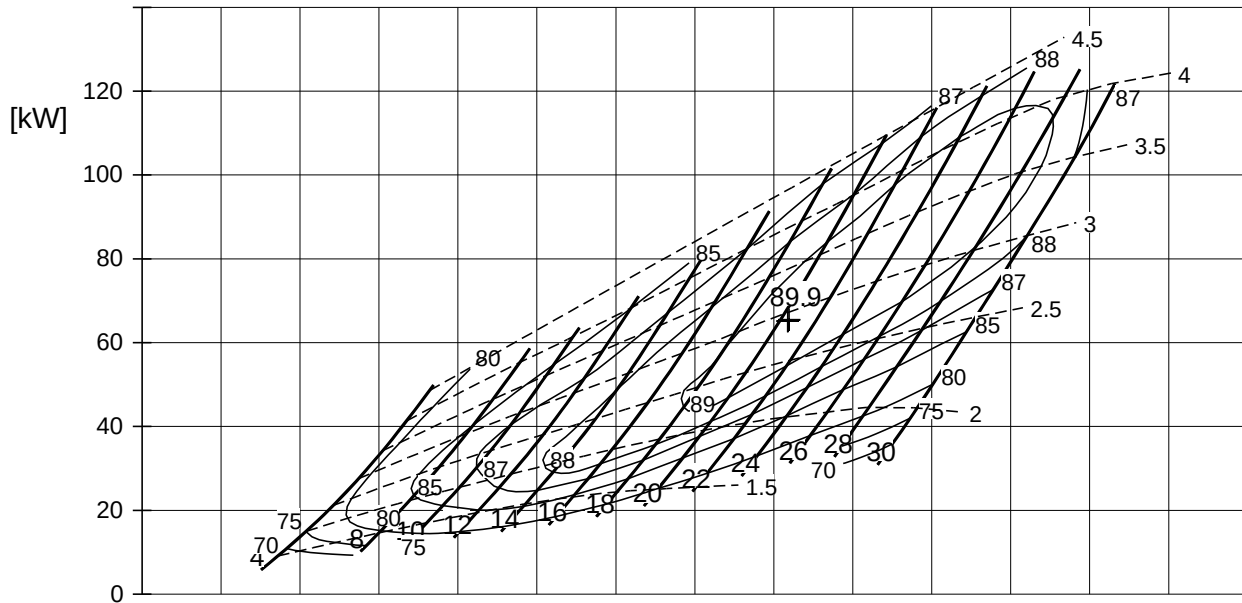
53- 250 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
250 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-12	1: 4.034	93.8% - 92.4%
735	43-44-6BC	6	160	350-12	1: 4.034	95.2% - 94.1%
765	43-56-6BC	6	200	350-12	1: 4.034	95.9% - 95.0%

POWER (SHAFT)

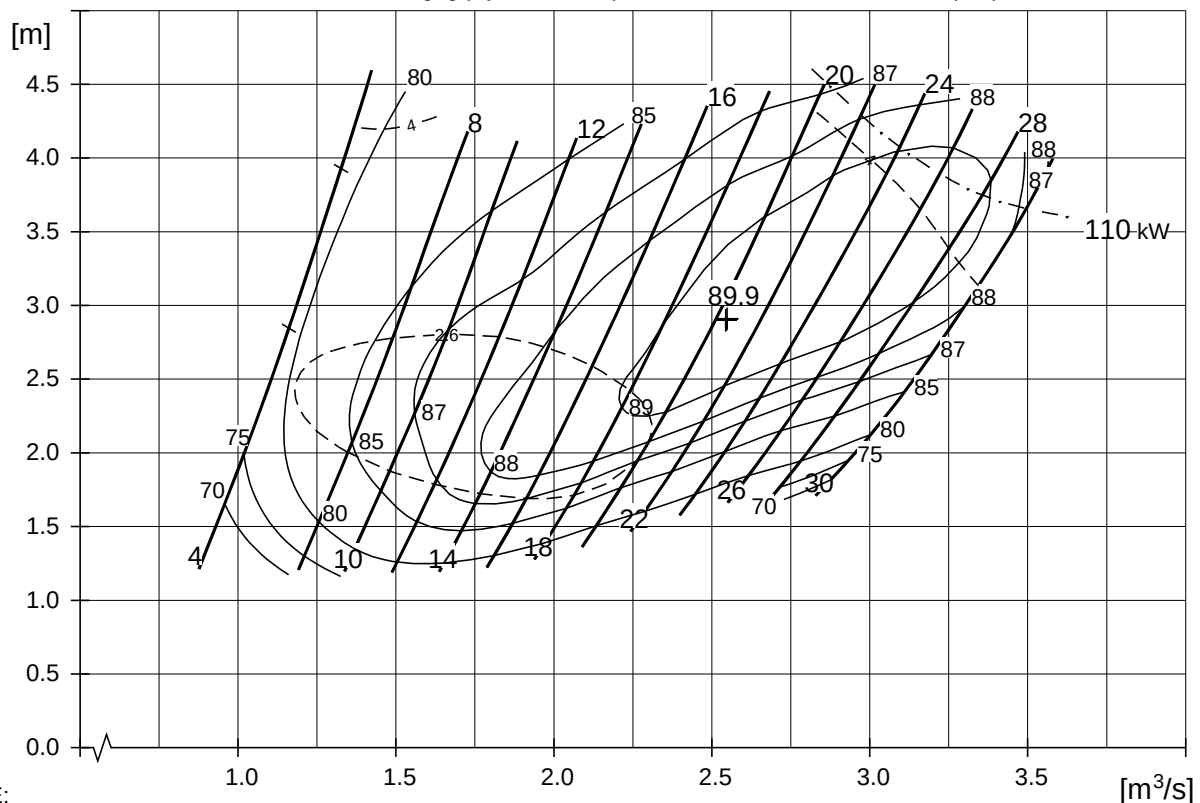
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

53- 250 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
250 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 degDRIVE UNIT
705GENERATOR
43-30-6BCPOLES
6GEN. POWER
110 kWGEAR TYPE
350-12GEAR RATIO
1: 4.034GEAR EFFICIENCY (Load:1/1-3/4)
93.8% - 92.4%

735

43-44-6BC

6

160

350-12

1: 4.034

95.2% - 94.1%

765

43-56-6BC

6

200

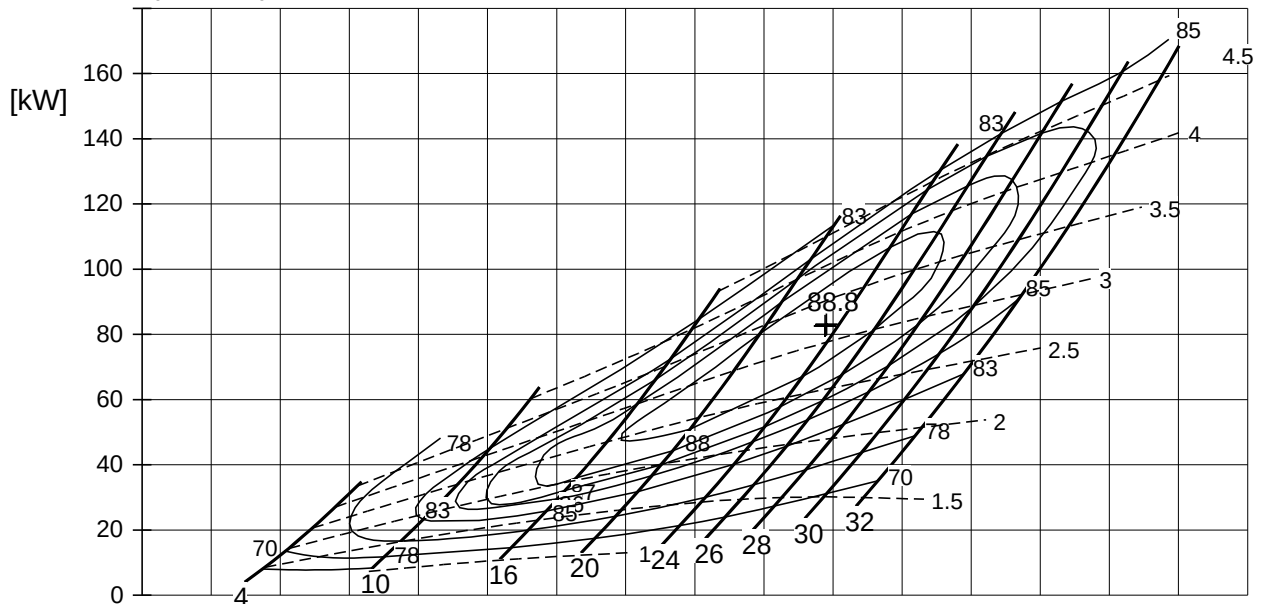
350-12

1: 4.034

95.9% - 95.0%

POWER (SHAFT)

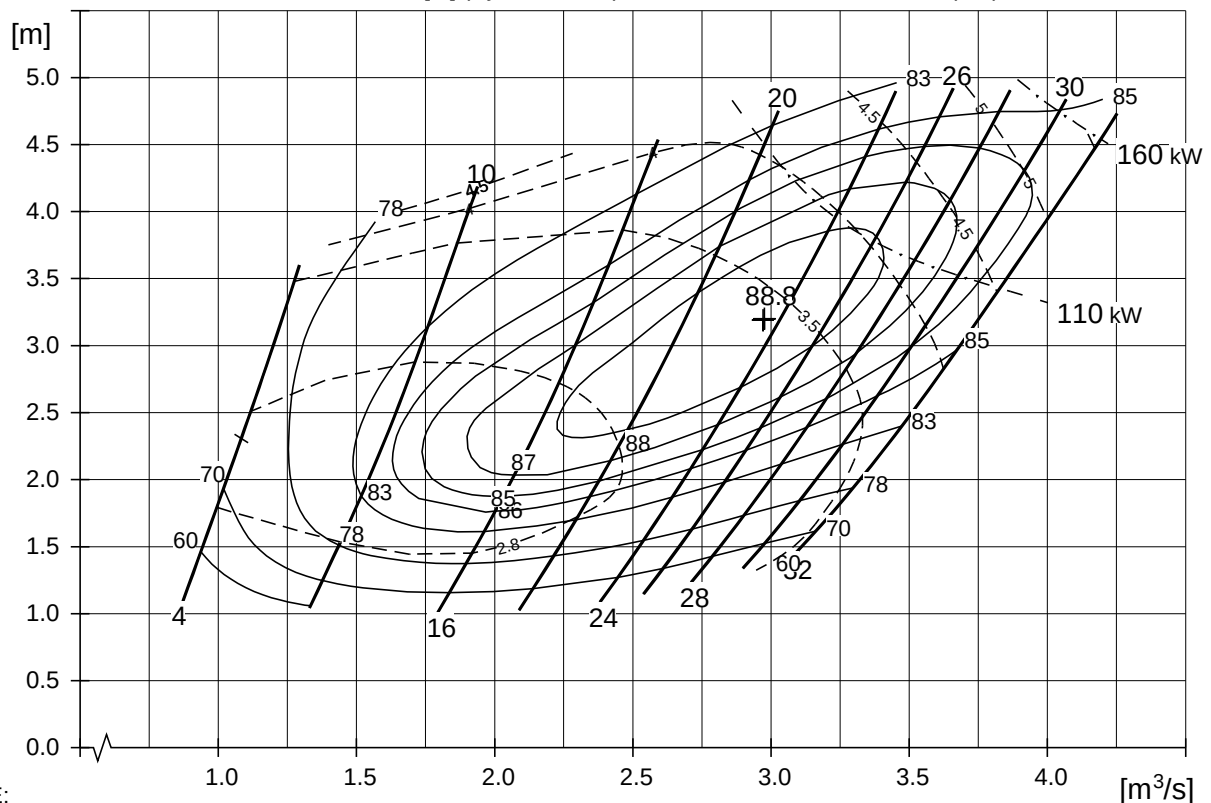
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

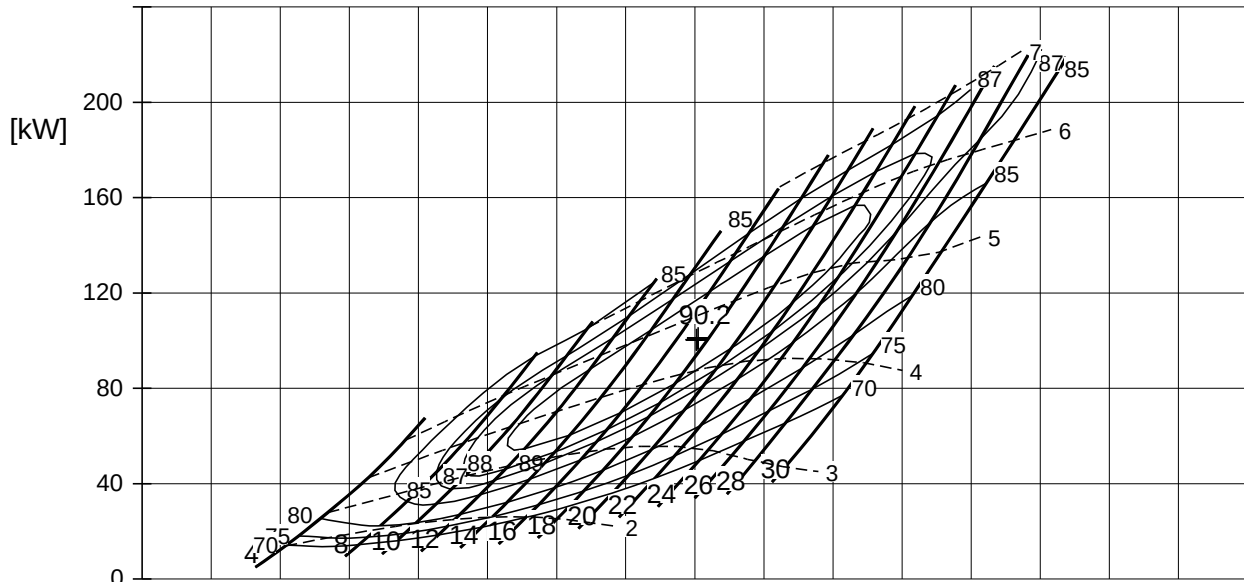
53- 289C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
289 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-13	1: 3.500	95.2% - 94.0%
735	43-44-6BC	6	160	350-13	1: 3.500	96.3% - 95.4%
765	43-56-6BC	6	200	350-12	1: 3.500	95.5% - 94.6%
835	54-52-6AA	6	250	350-12	1: 3.500	96.1% - 95.3%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)



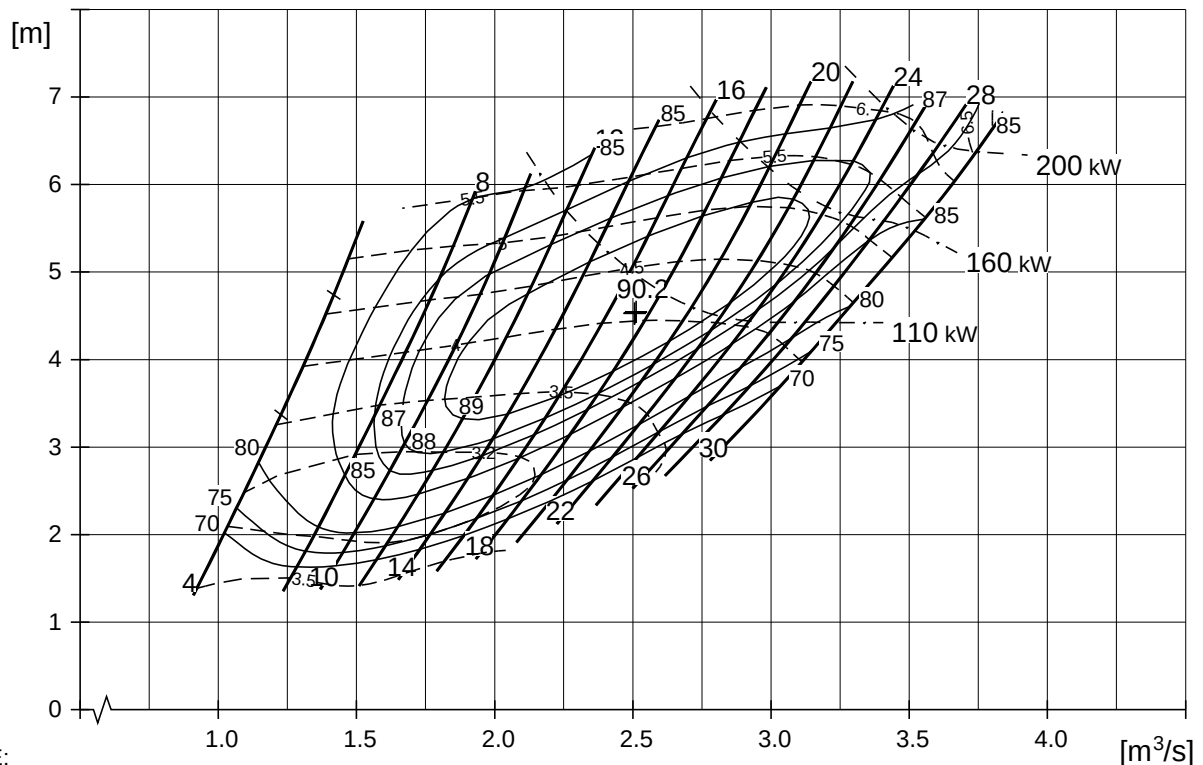
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

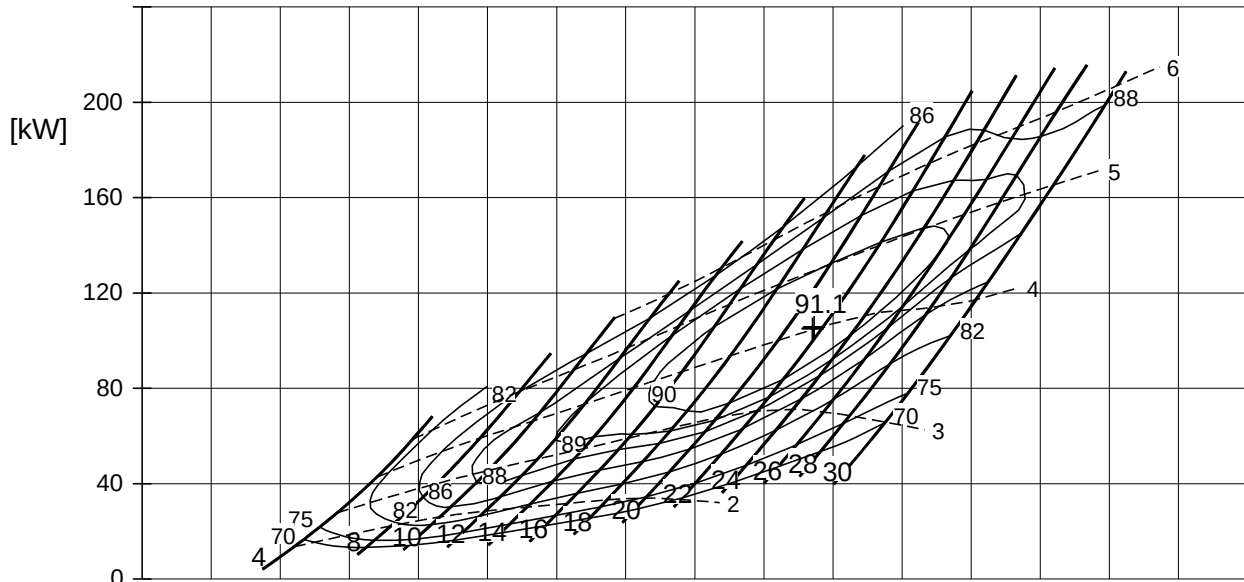
53- 289C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
289 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-13	1: 3.500	95.2% - 94.0%
735	43-44-6BC	6	160	350-13	1: 3.500	96.3% - 95.4%
765	43-56-6BC	6	200	350-12	1: 3.500	95.5% - 94.6%
835	54-52-6AA	6	250	350-12	1: 3.500	96.1% - 95.3%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)



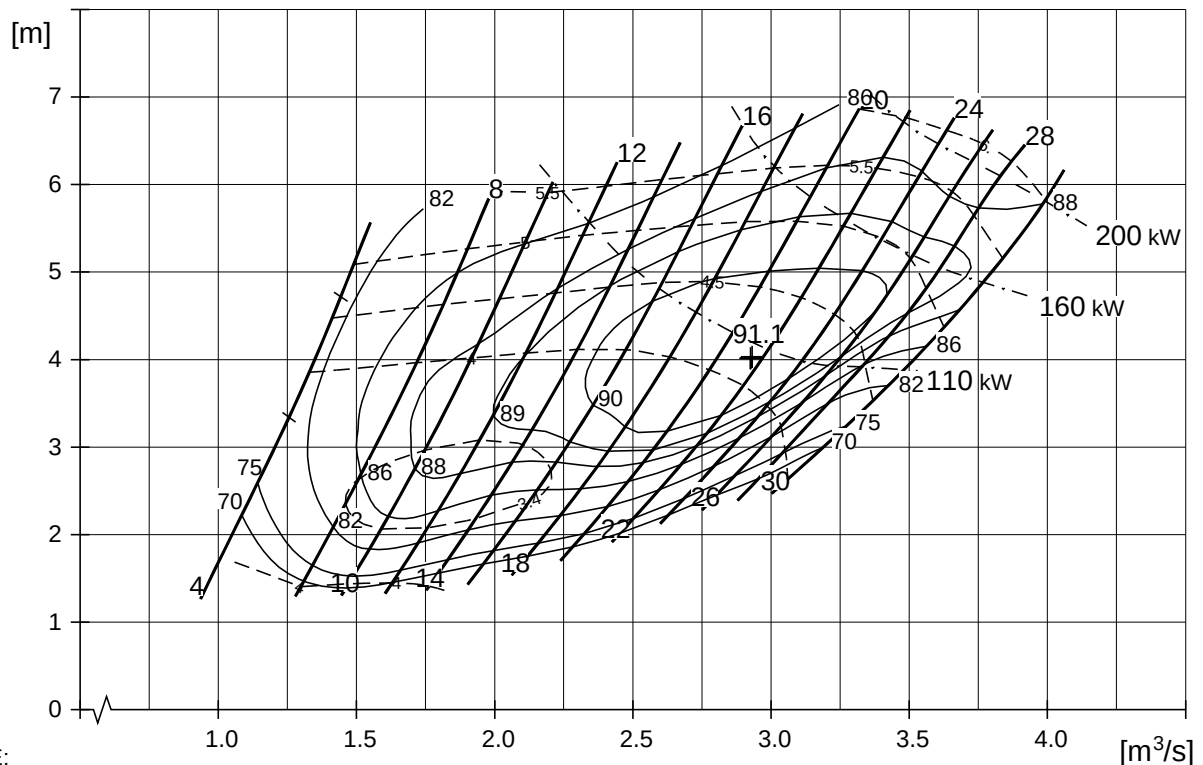
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

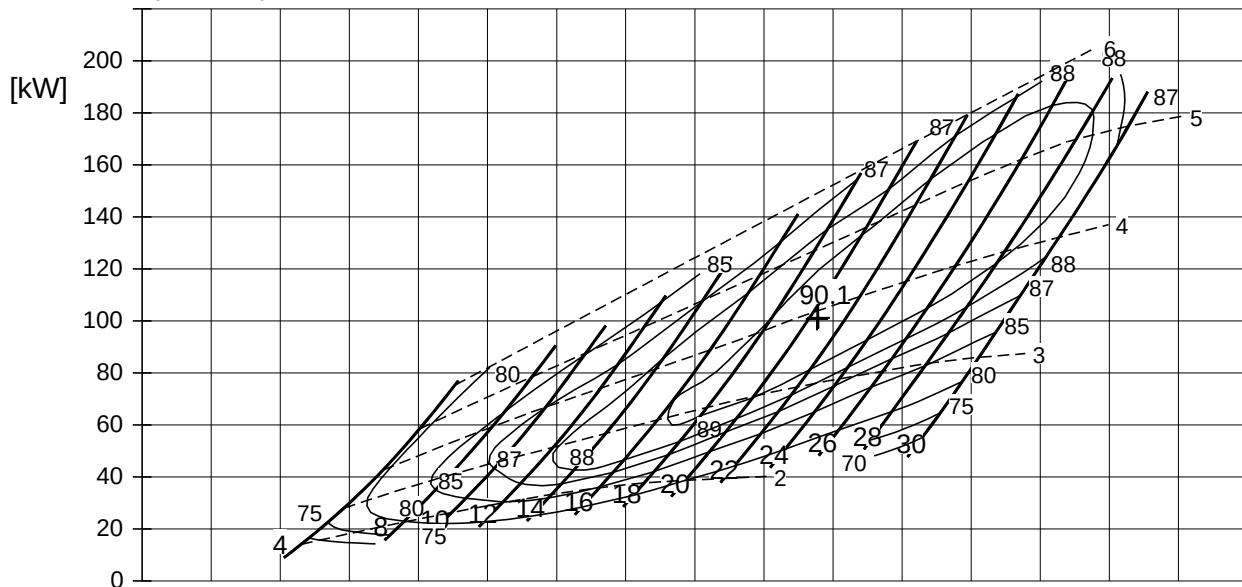
53- 289C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
289 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-13	1: 3.500	95.2% - 94.0%
735	43-44-6BC	6	160	350-13	1: 3.500	96.3% - 95.4%
765	43-56-6BC	6	200	350-12	1: 3.500	95.5% - 94.6%
835	54-52-6AA	6	250	350-12	1: 3.500	96.1% - 95.3%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)



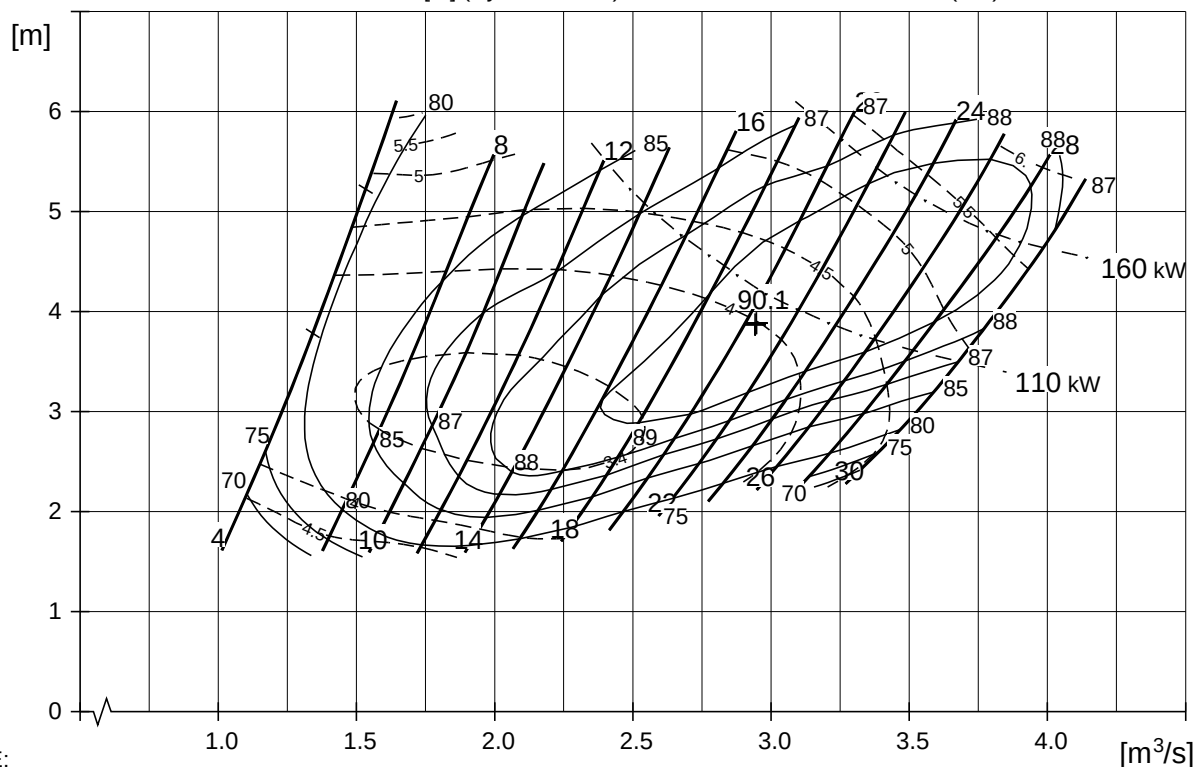
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

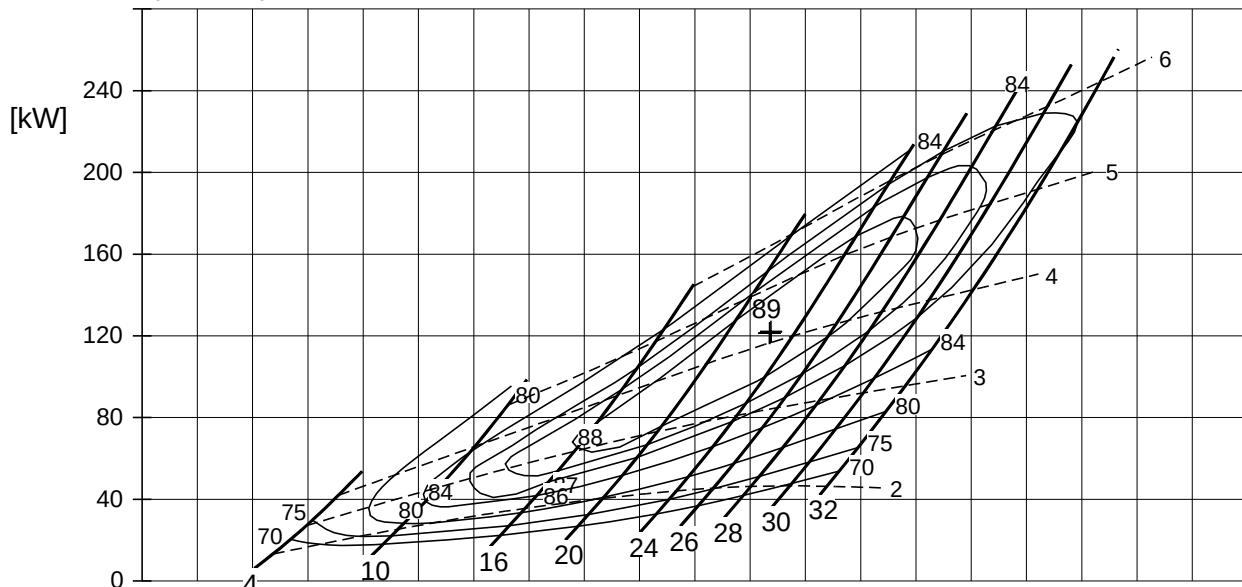
53- 289C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
289 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-13	1: 3.500	95.2% - 94.0%
735	43-44-6BC	6	160	350-13	1: 3.500	96.3% - 95.4%
765	43-56-6BC	6	200	350-12	1: 3.500	95.5% - 94.6%
835	54-52-6AA	6	250	350-12	1: 3.500	96.1% - 95.3%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)



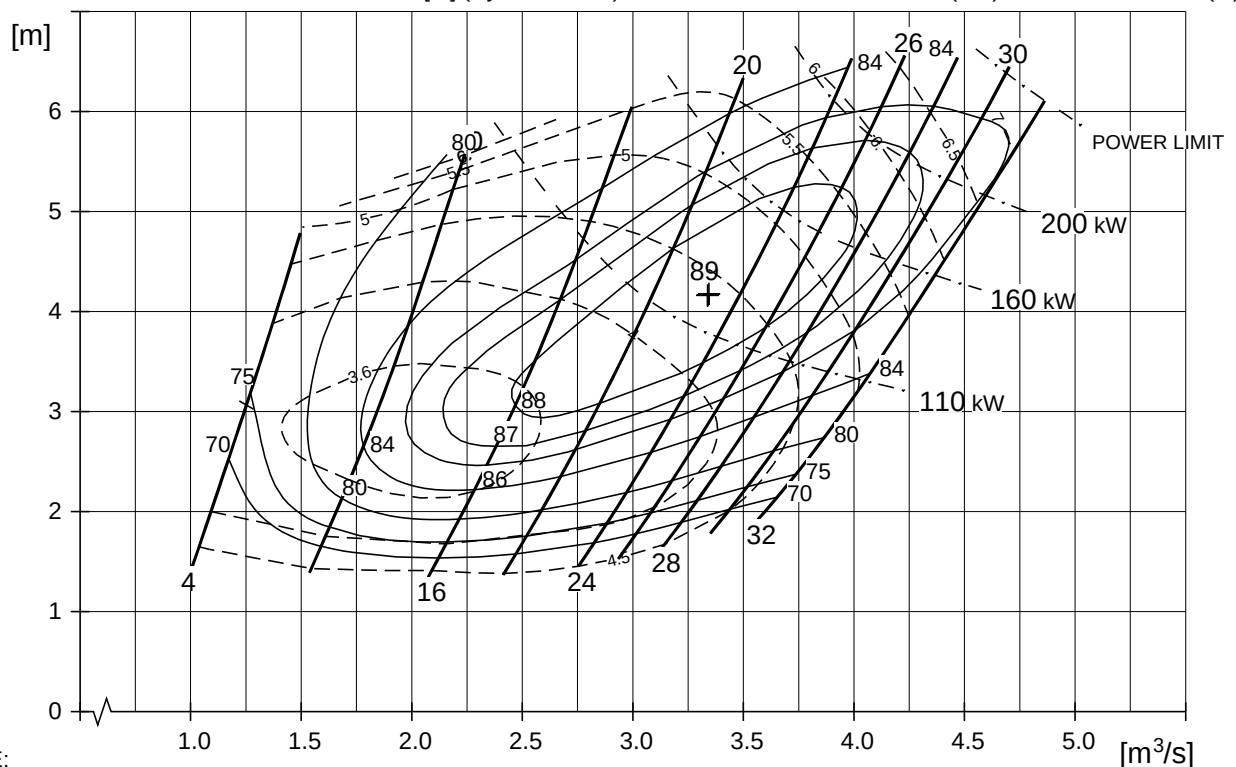
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

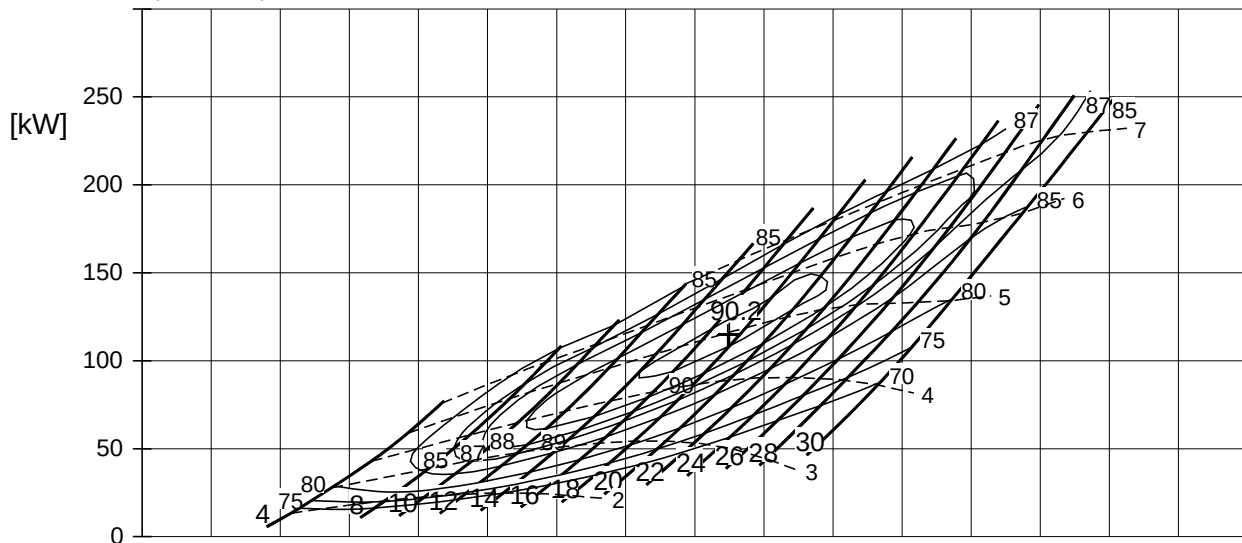
EL 7600

CURVE NO

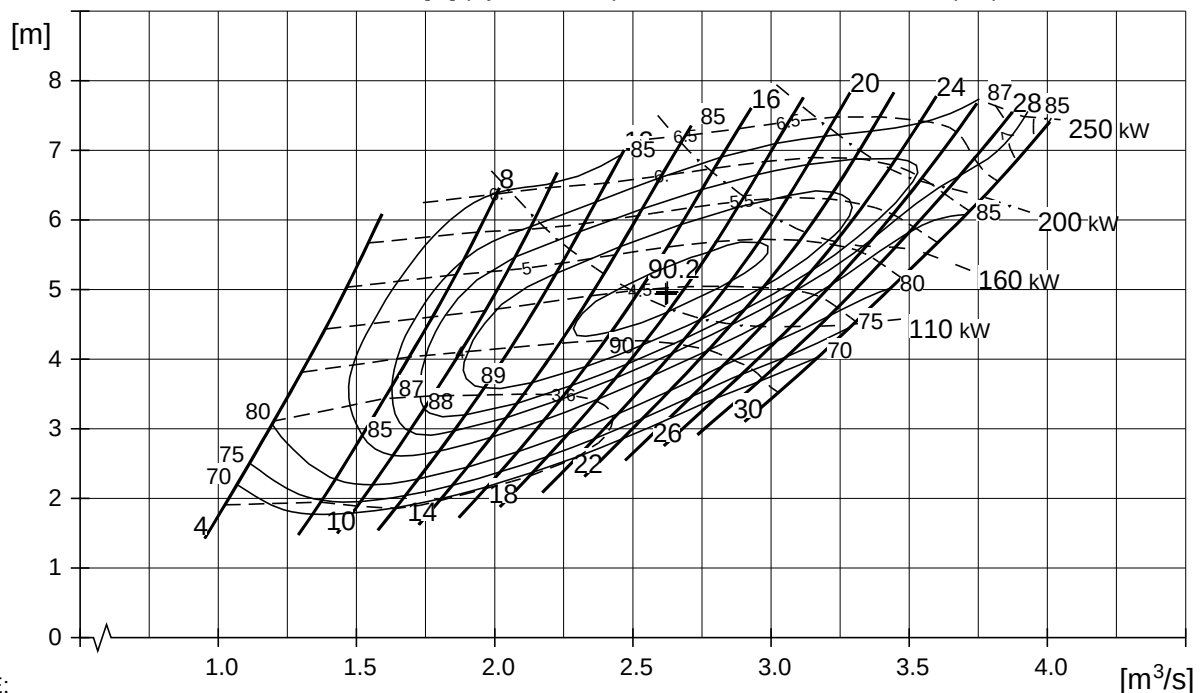
53- 302 C4EDATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
302 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-13	1: 3.333	95.0% - 93.9%
735	43-44-6BC	6	160	350-13	1: 3.333	96.2% - 95.3%
765	43-56-6BC	6	200	350-12	1: 3.333	95.4% - 94.4%
835	54-52-6AA	6	250	350-12	1: 3.333	96.0% - 95.2%
905	66-46-6AA	6	310	350-12	1: 3.333	96.5% - 95.8%
865	54-66-6AA	6	340	350-12	1: 3.333	96.7% - 96.0%
905	66-56-6AA	6	400	350-12	1: 3.333	96.9% - 96.4%

POWER (SHAFT) ISO-CURVES : (---) HEAD(m)



HEAD ISO-CURVES : TURBINE EFFICIENCY[%] (Hydraulic-End) (---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

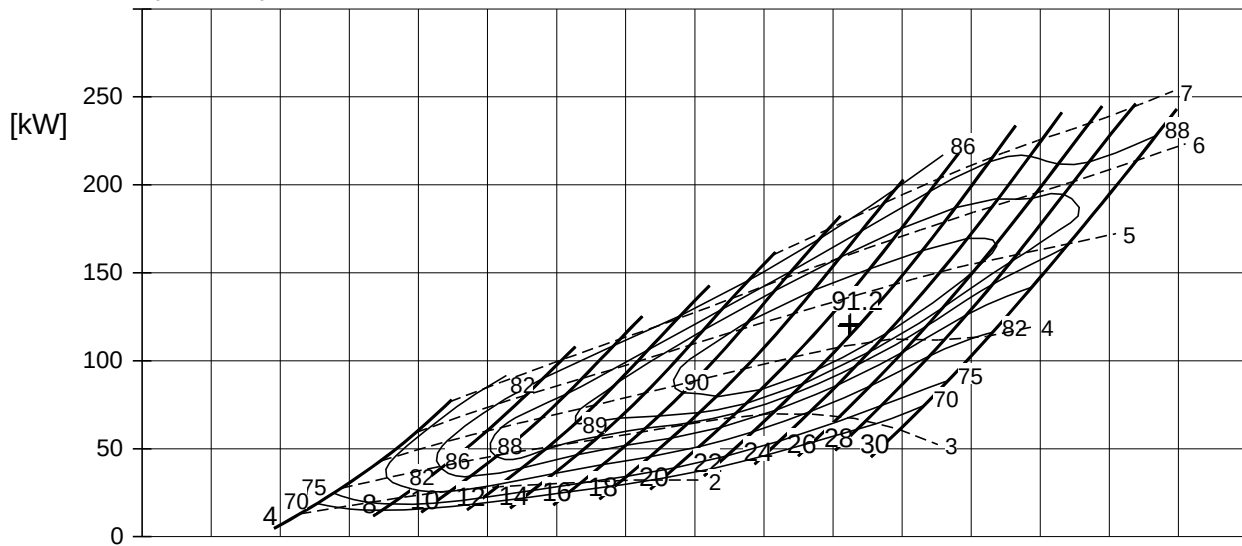
CURVE NO

53- 302 C4E

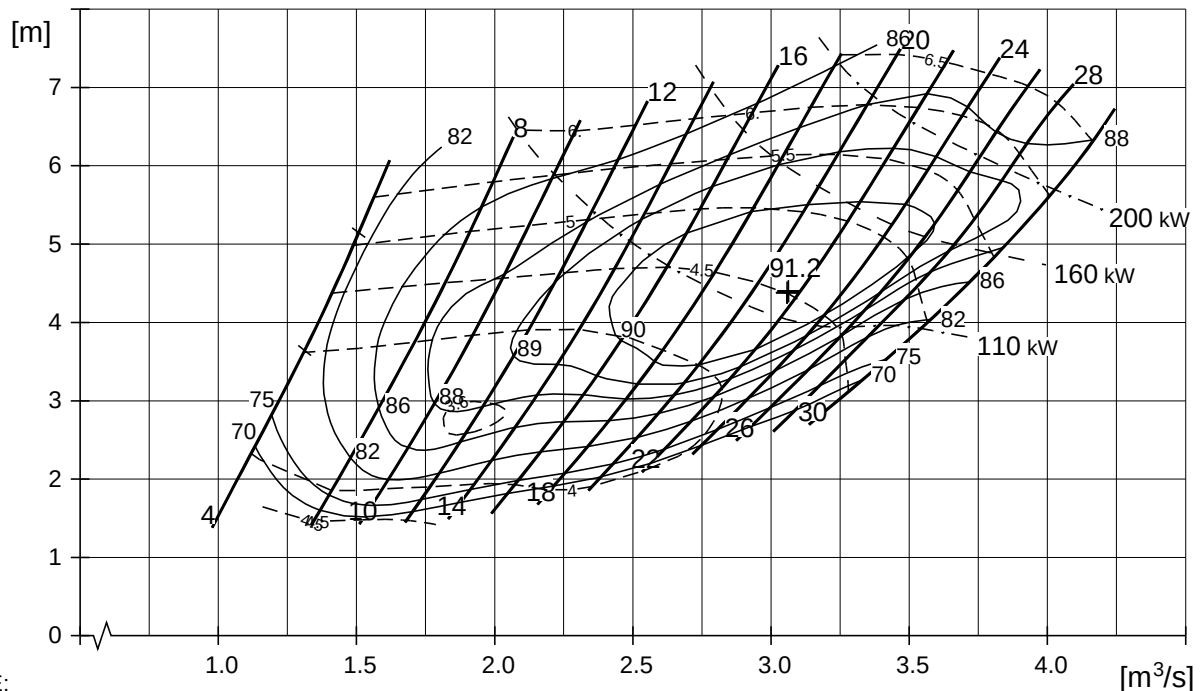
DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
302 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-13	1: 3.333	95.0% - 93.9%
735	43-44-6BC	6	160	350-13	1: 3.333	96.2% - 95.3%
765	43-56-6BC	6	200	350-12	1: 3.333	95.4% - 94.4%
835	54-52-6AA	6	250	350-12	1: 3.333	96.0% - 95.2%
905	66-46-6AA	6	310	350-12	1: 3.333	96.5% - 95.8%
865	54-66-6AA	6	340	350-12	1: 3.333	96.7% - 96.0%
905	66-56-6AA	6	400	350-12	1: 3.333	96.9% - 96.4%

POWER (SHAFT) ISO-CURVES : (---) HEAD(m)



HEAD ISO-CURVES : TURBINE EFFICIENCY[%] (Hydraulic-End) (---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

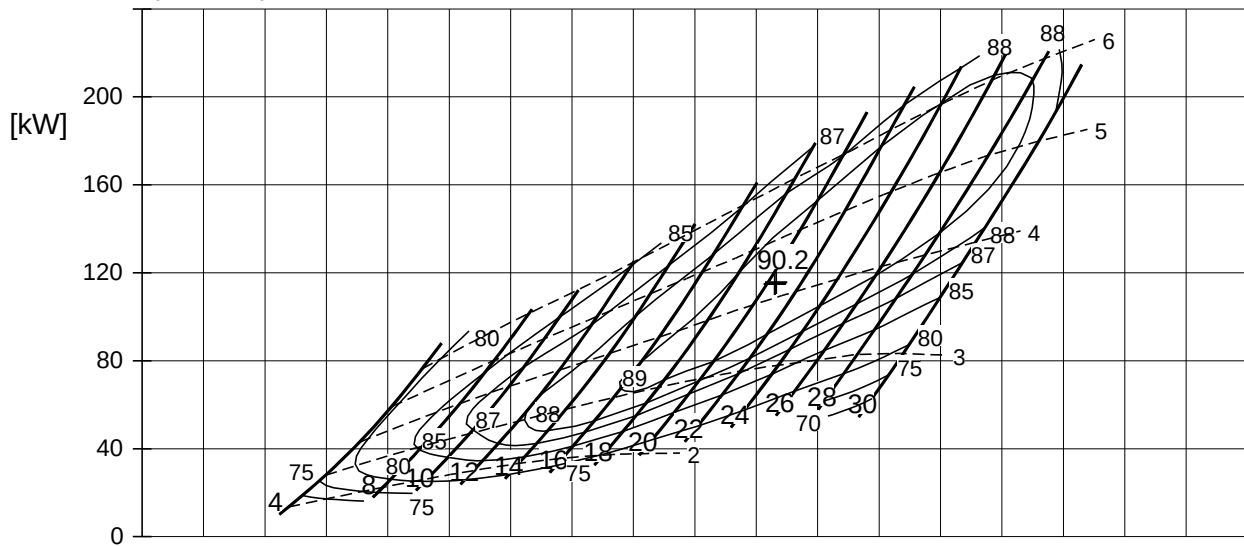
CURVE NO

53- 302 C4E

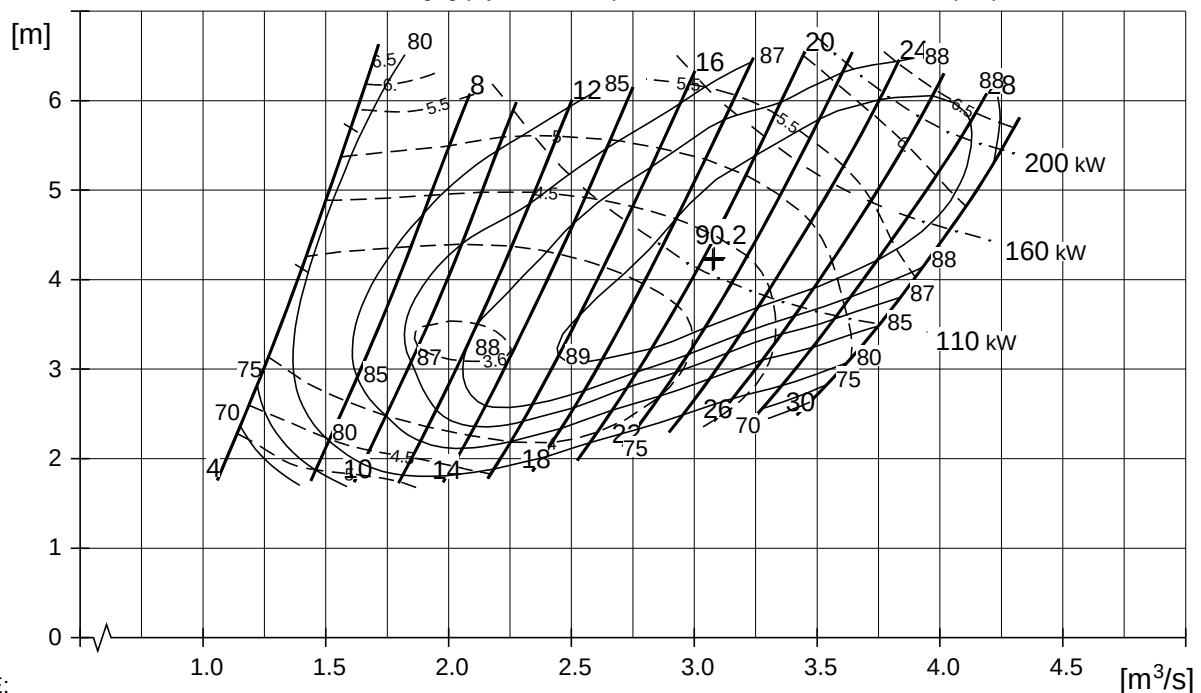
DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
302 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-13	1: 3.333	95.0% - 93.9%
735	43-44-6BC	6	160	350-13	1: 3.333	96.2% - 95.3%
765	43-56-6BC	6	200	350-12	1: 3.333	95.4% - 94.4%
835	54-52-6AA	6	250	350-12	1: 3.333	96.0% - 95.2%
905	66-46-6AA	6	310	350-12	1: 3.333	96.5% - 95.8%
865	54-66-6AA	6	340	350-12	1: 3.333	96.7% - 96.0%
905	66-56-6AA	6	400	350-12	1: 3.333	96.9% - 96.4%

POWER (SHAFT) ISO-CURVES : (---) HEAD(m)



HEAD ISO-CURVES : TURBINE EFFICIENCY[%] (Hydraulic-End) (---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

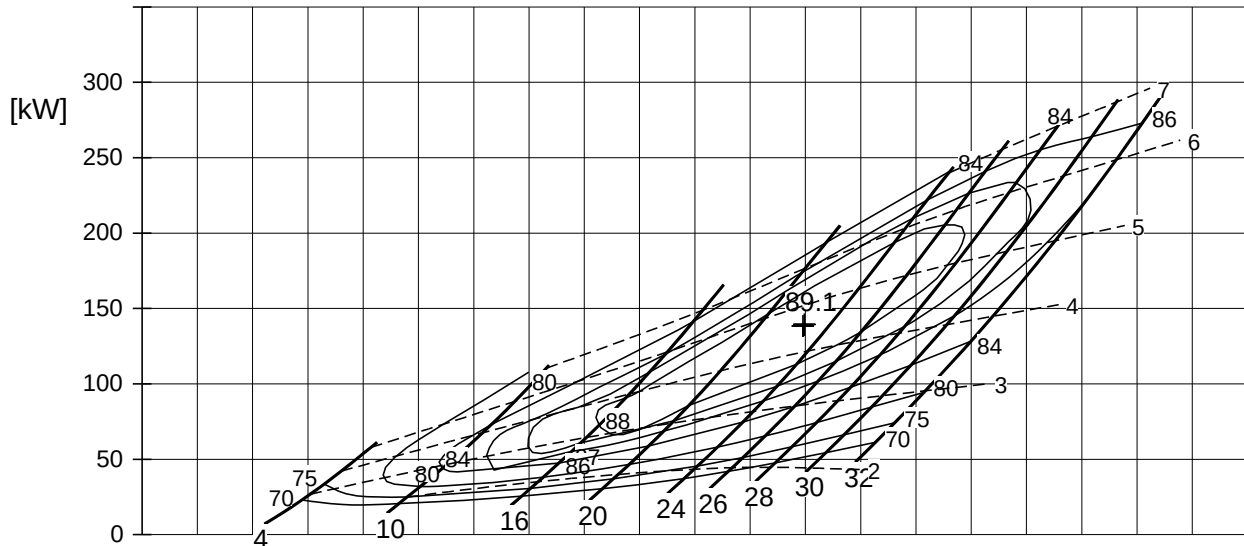
CURVE NO

53- 302 C4EDATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
302 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **32** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-13	1: 3.333	95.0% - 93.9%
735	43-44-6BC	6	160	350-13	1: 3.333	96.2% - 95.3%
765	43-56-6BC	6	200	350-12	1: 3.333	95.4% - 94.4%
835	54-52-6AA	6	250	350-12	1: 3.333	96.0% - 95.2%
905	66-46-6AA	6	310	350-12	1: 3.333	96.5% - 95.8%
865	54-66-6AA	6	340	350-12	1: 3.333	96.7% - 96.0%
905	66-56-6AA	6	400	350-12	1: 3.333	96.9% - 96.4%

POWER (SHAFT)

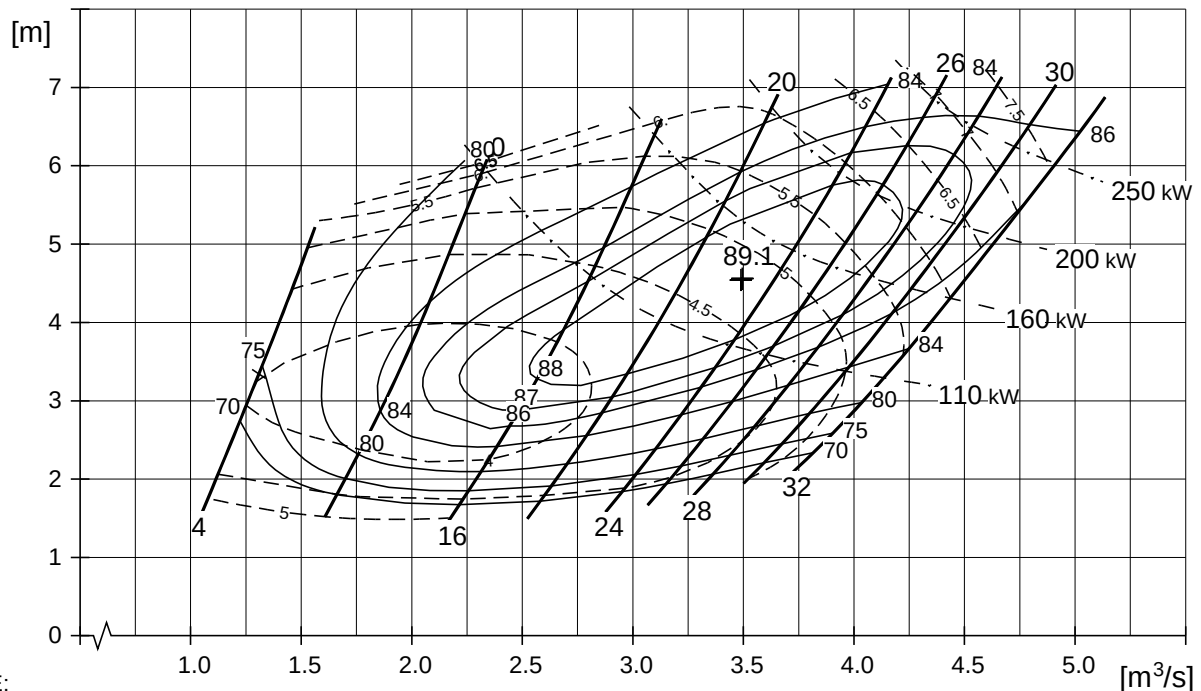
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

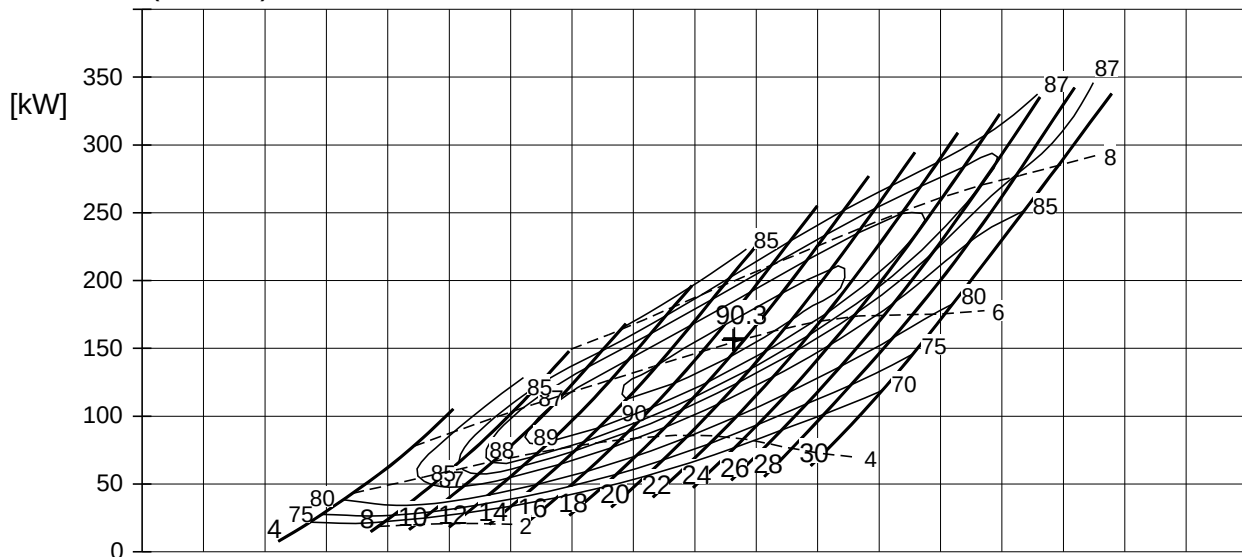
53- 335 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
335 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-6BC	6	160 kW	350-13	1: 3.000	96.0% - 95.1%
765	43-56-6BC	6	200	350-13	1: 3.000	96.5% - 95.8%
835	54-52-6AA	6	250	350-13	1: 3.000	96.9% - 96.3%
905	66-46-6AA	6	310	350-13	1: 3.000	97.3% - 96.8%
865	54-66-6AA	6	340	350-13	1: 3.000	97.4% - 97.0%
905	66-56-6AA	6	400	350-13	1: 3.000	97.6% - 97.2%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)



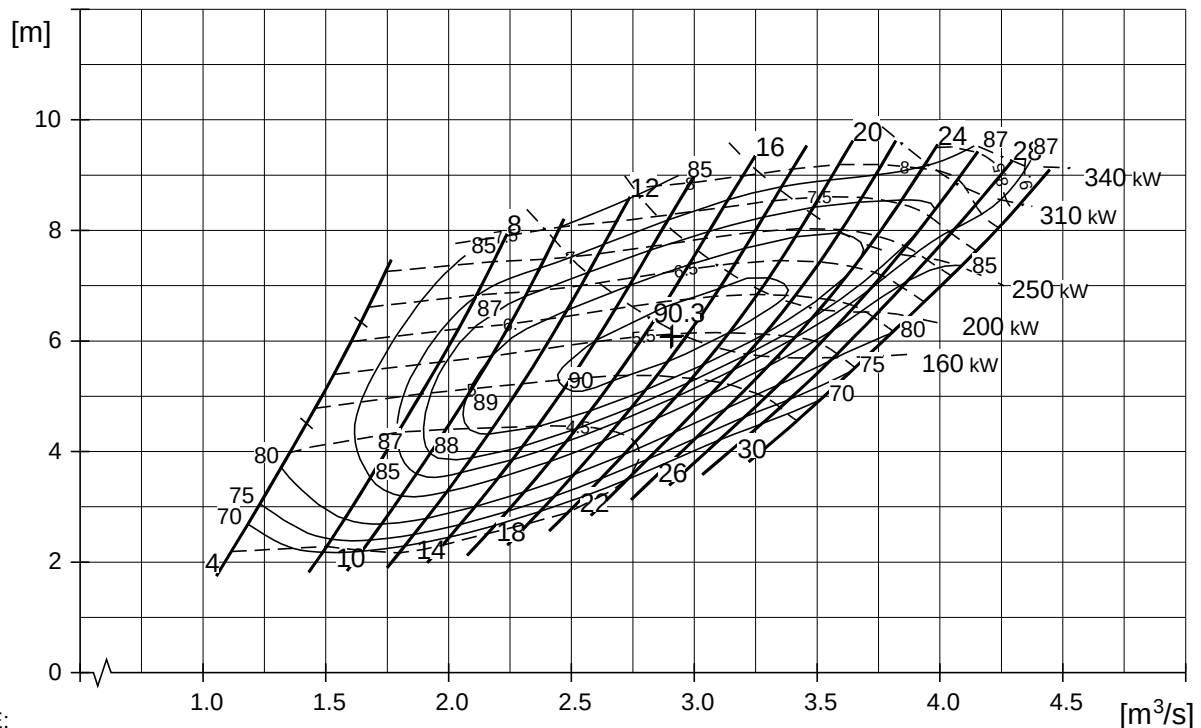
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

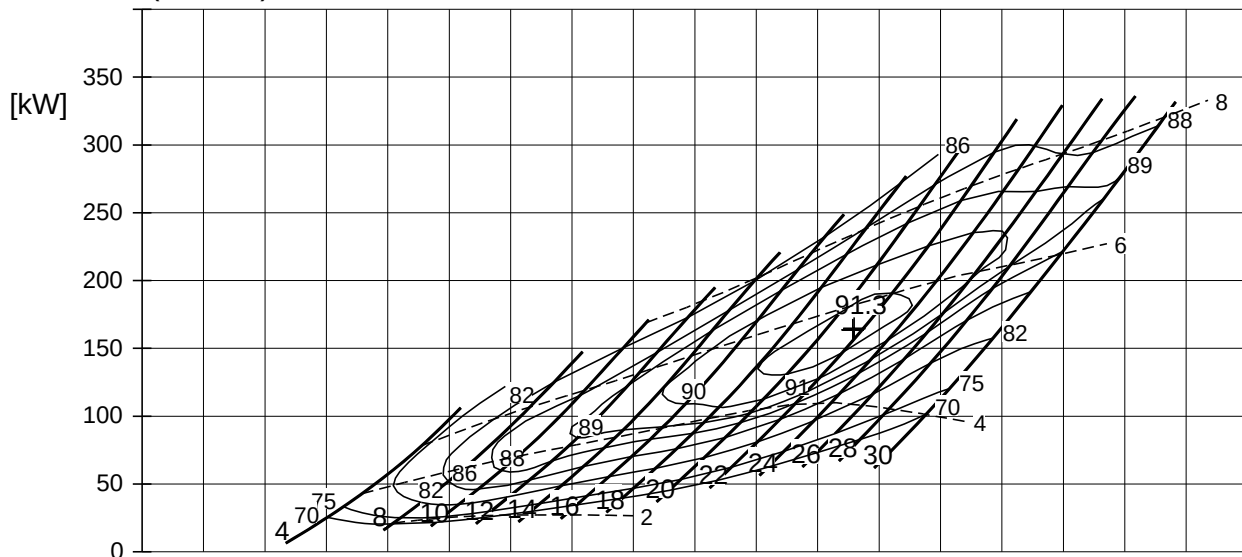
53- 335 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
335 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-6BC	6	160 kW	350-13	1: 3.000	96.0% - 95.1%
765	43-56-6BC	6	200	350-13	1: 3.000	96.5% - 95.8%
835	54-52-6AA	6	250	350-13	1: 3.000	96.9% - 96.3%
905	66-46-6AA	6	310	350-13	1: 3.000	97.3% - 96.8%
865	54-66-6AA	6	340	350-13	1: 3.000	97.4% - 97.0%
905	66-56-6AA	6	400	350-13	1: 3.000	97.6% - 97.2%

POWER (SHAFT)

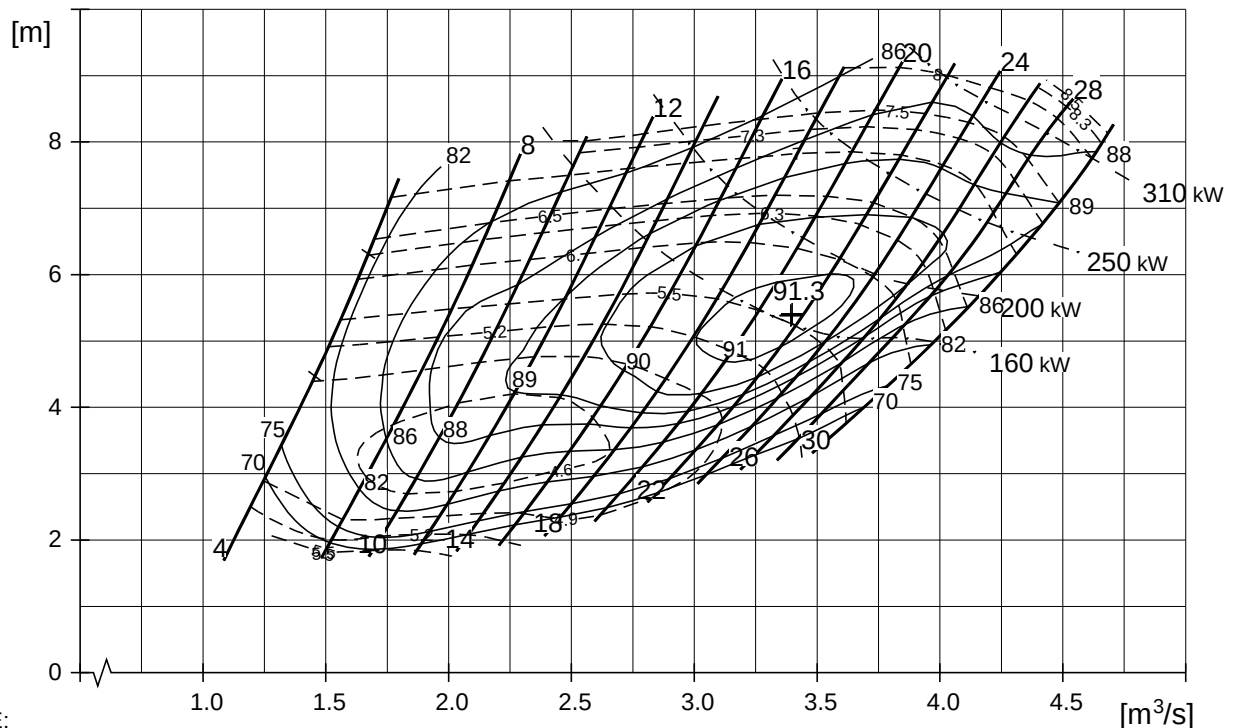
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

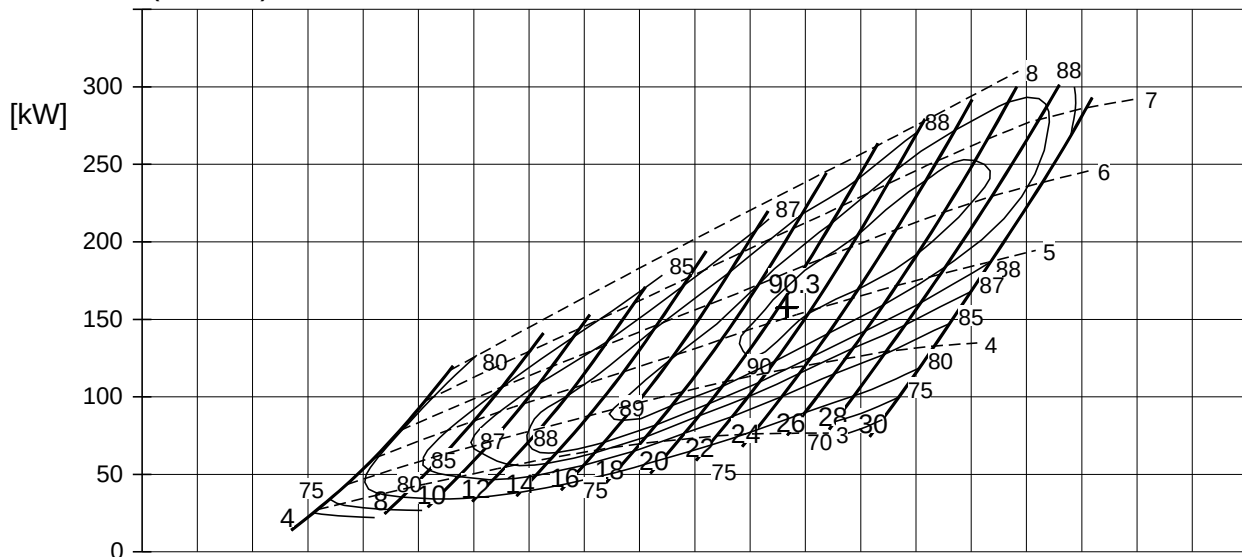
53- 335 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
335 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-6BC	6	160 kW	350-13	1: 3.000	96.0% - 95.1%
765	43-56-6BC	6	200	350-13	1: 3.000	96.5% - 95.8%
835	54-52-6AA	6	250	350-13	1: 3.000	96.9% - 96.3%
905	66-46-6AA	6	310	350-13	1: 3.000	97.3% - 96.8%
865	54-66-6AA	6	340	350-13	1: 3.000	97.4% - 97.0%
905	66-56-6AA	6	400	350-13	1: 3.000	97.6% - 97.2%

POWER (SHAFT)

ISO-CURVES : (- - -) HEAD(m)



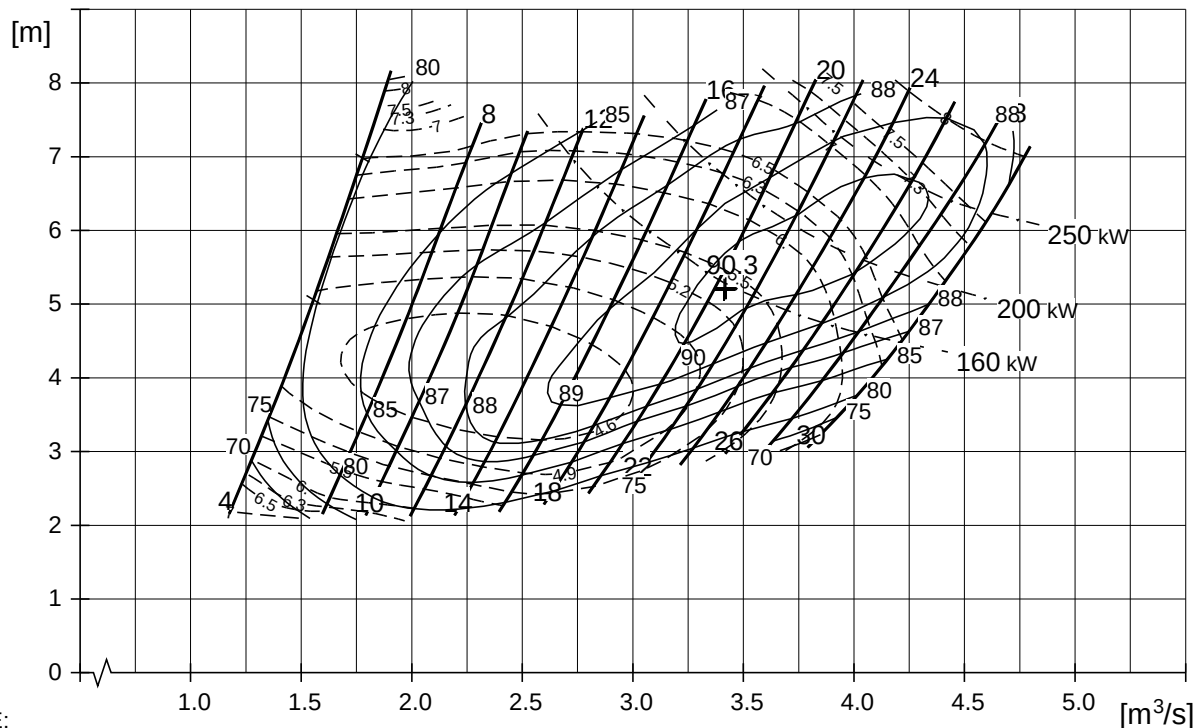
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

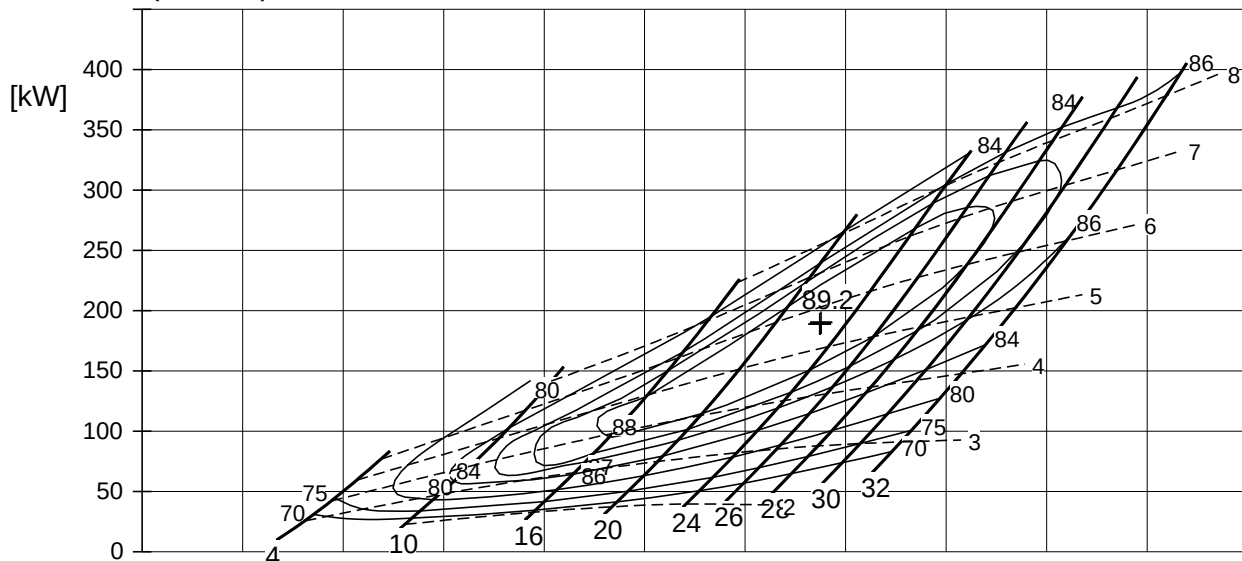
53- 335 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
335 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-6BC	6	160 kW	350-13	1: 3.000	96.0% - 95.1%
765	43-56-6BC	6	200	350-13	1: 3.000	96.5% - 95.8%
835	54-52-6AA	6	250	350-13	1: 3.000	96.9% - 96.3%
905	66-46-6AA	6	310	350-13	1: 3.000	97.3% - 96.8%
865	54-66-6AA	6	340	350-13	1: 3.000	97.4% - 97.0%
905	66-56-6AA	6	400	350-13	1: 3.000	97.6% - 97.2%

POWER (SHAFT)

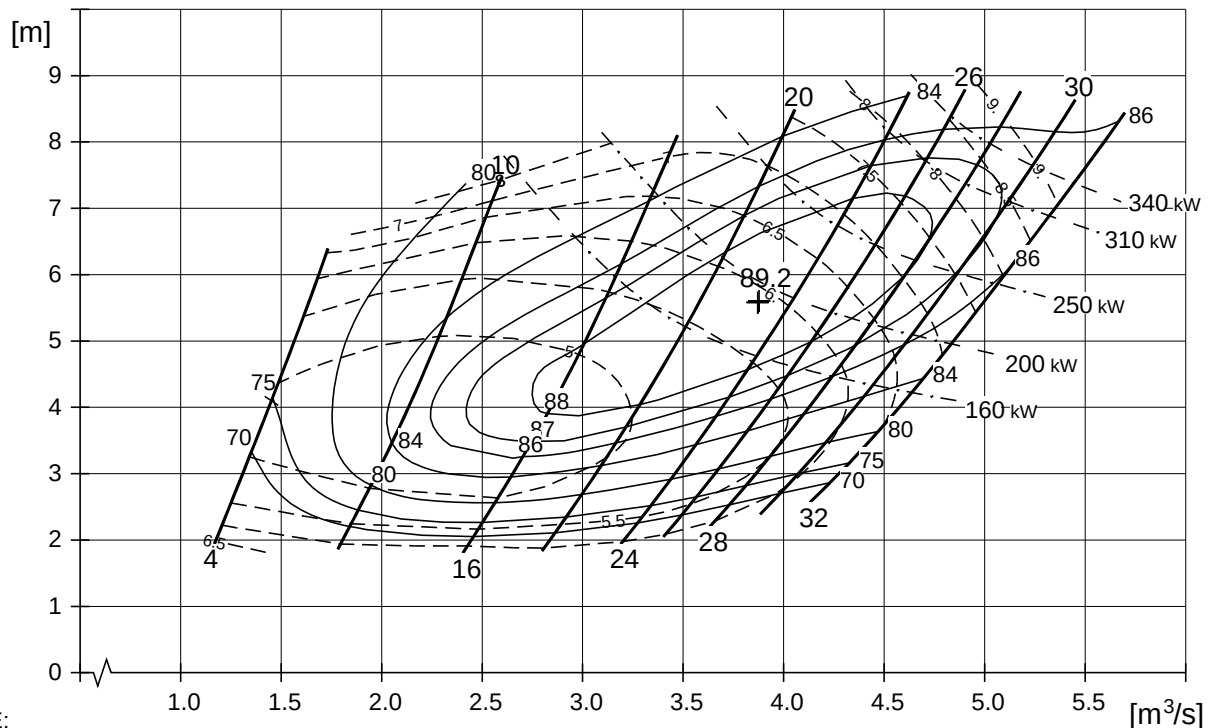
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

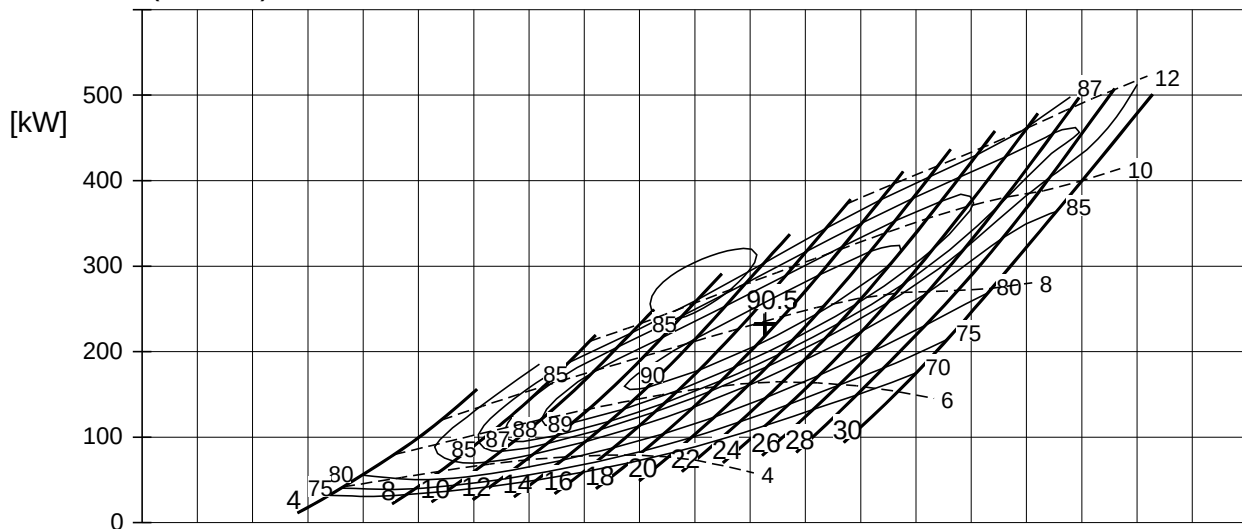
CURVE NO

53- 382 C4EDATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
382 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-6BC	6	160 kW	350-13	1: 2.681	95.7% - 94.8%
765	43-56-6BC	6	200	350-13	1: 2.681	96.3% - 95.5%
835	54-52-6AA	6	250	350-13	1: 2.681	96.7% - 96.1%
905	66-46-6AA	6	310	350-13	1: 2.681	97.1% - 96.6%
865	54-66-6AA	6	340	350-13	1: 2.681	97.2% - 96.8%
905	66-56-6AA	6	400	350-13	1: 2.681	97.5% - 97.0%
935	66-66-6AA	6	465	350-13	1: 2.681	97.6% - 97.3%
935	66-76-6AA	6	600	360-13	1: 2.674	97.8% - 97.6%

POWER (SHAFT)

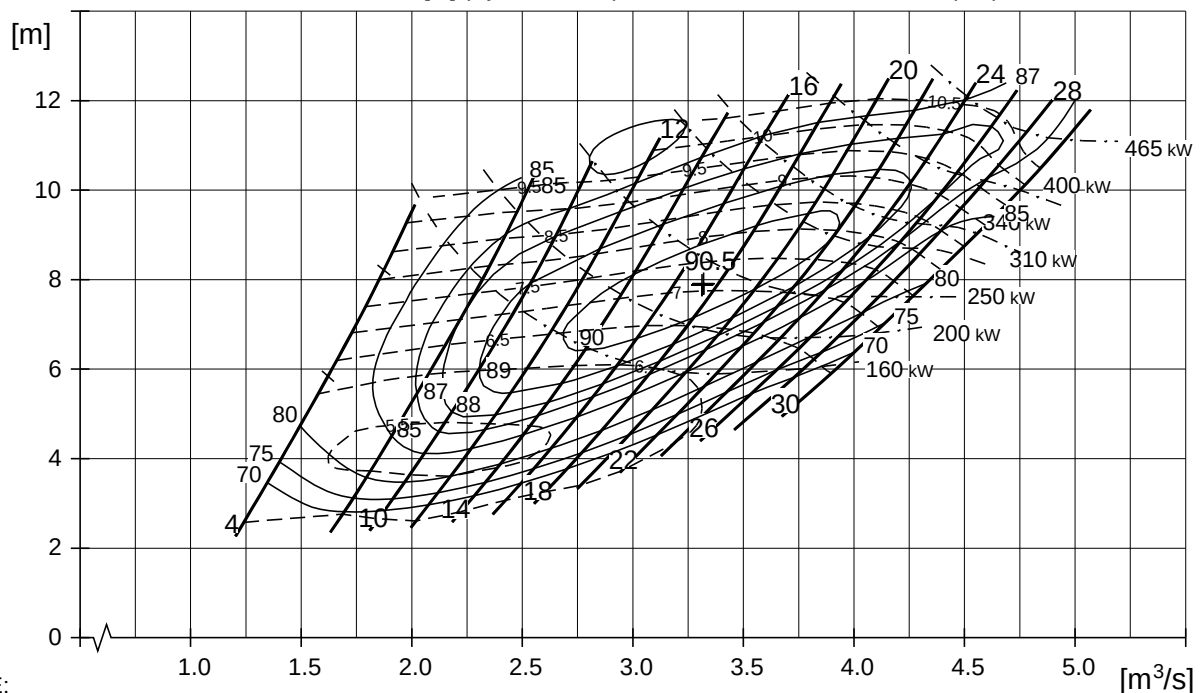
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

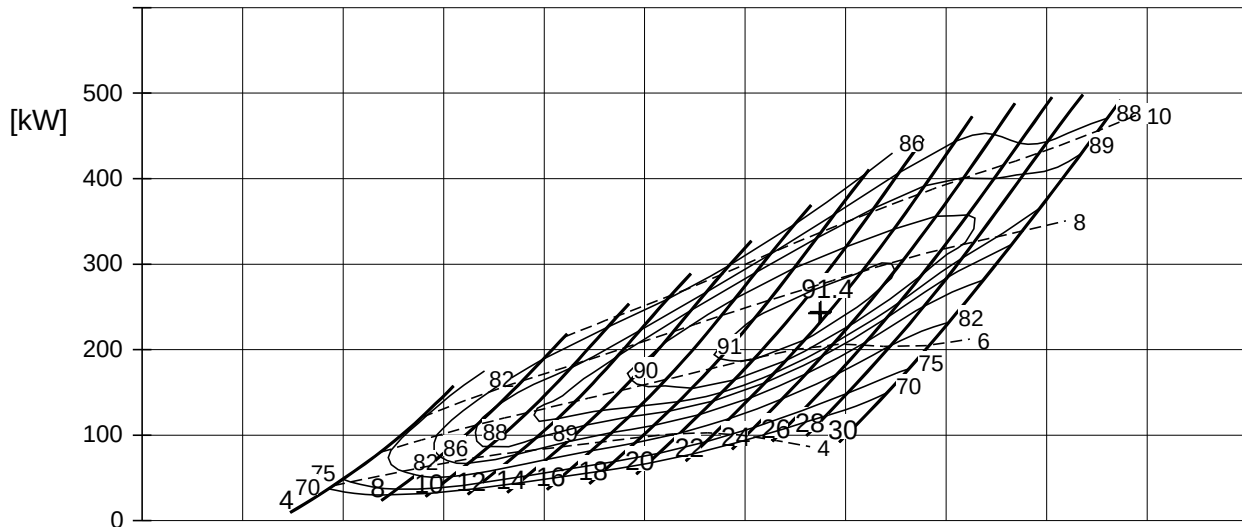
CURVE NO

53- 382 C4EDATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
382 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-6BC	6	160 kW	350-13	1: 2.681	95.7% - 94.8%
765	43-56-6BC	6	200	350-13	1: 2.681	96.3% - 95.5%
835	54-52-6AA	6	250	350-13	1: 2.681	96.7% - 96.1%
905	66-46-6AA	6	310	350-13	1: 2.681	97.1% - 96.6%
865	54-66-6AA	6	340	350-13	1: 2.681	97.2% - 96.8%
905	66-56-6AA	6	400	350-13	1: 2.681	97.5% - 97.0%
935	66-66-6AA	6	465	350-13	1: 2.681	97.6% - 97.3%
935	66-76-6AA	6	600	360-13	1: 2.674	97.8% - 97.6%

POWER (SHAFT)

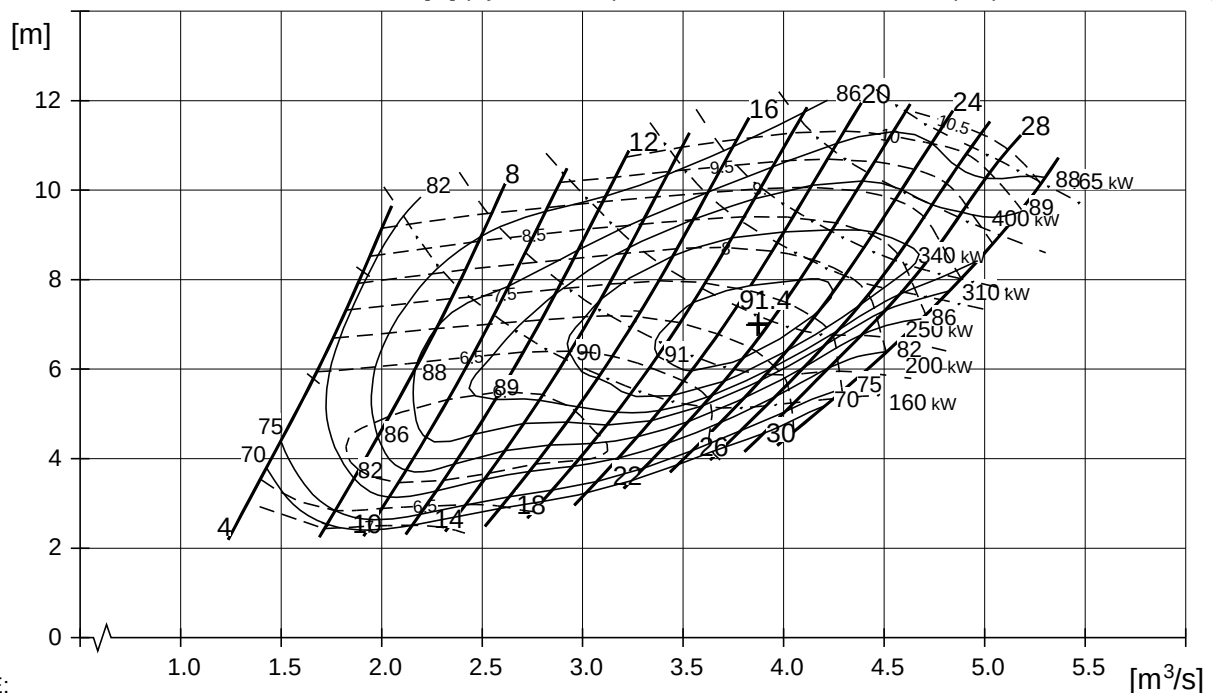
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

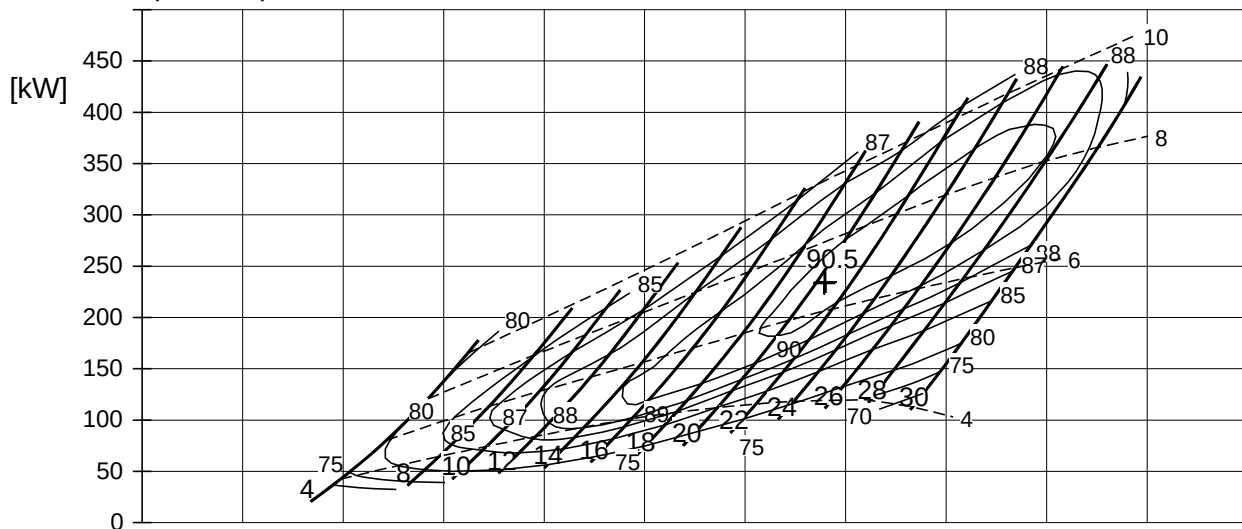
CURVE NO

53- 382 C4EDATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
382 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-6BC	6	160 kW	350-13	1: 2.681	95.7% - 94.8%
765	43-56-6BC	6	200	350-13	1: 2.681	96.3% - 95.5%
835	54-52-6AA	6	250	350-13	1: 2.681	96.7% - 96.1%
905	66-46-6AA	6	310	350-13	1: 2.681	97.1% - 96.6%
865	54-66-6AA	6	340	350-13	1: 2.681	97.2% - 96.8%
905	66-56-6AA	6	400	350-13	1: 2.681	97.5% - 97.0%
935	66-66-6AA	6	465	350-13	1: 2.681	97.6% - 97.3%
935	66-76-6AA	6	600	360-13	1: 2.674	97.8% - 97.6%

POWER (SHAFT)

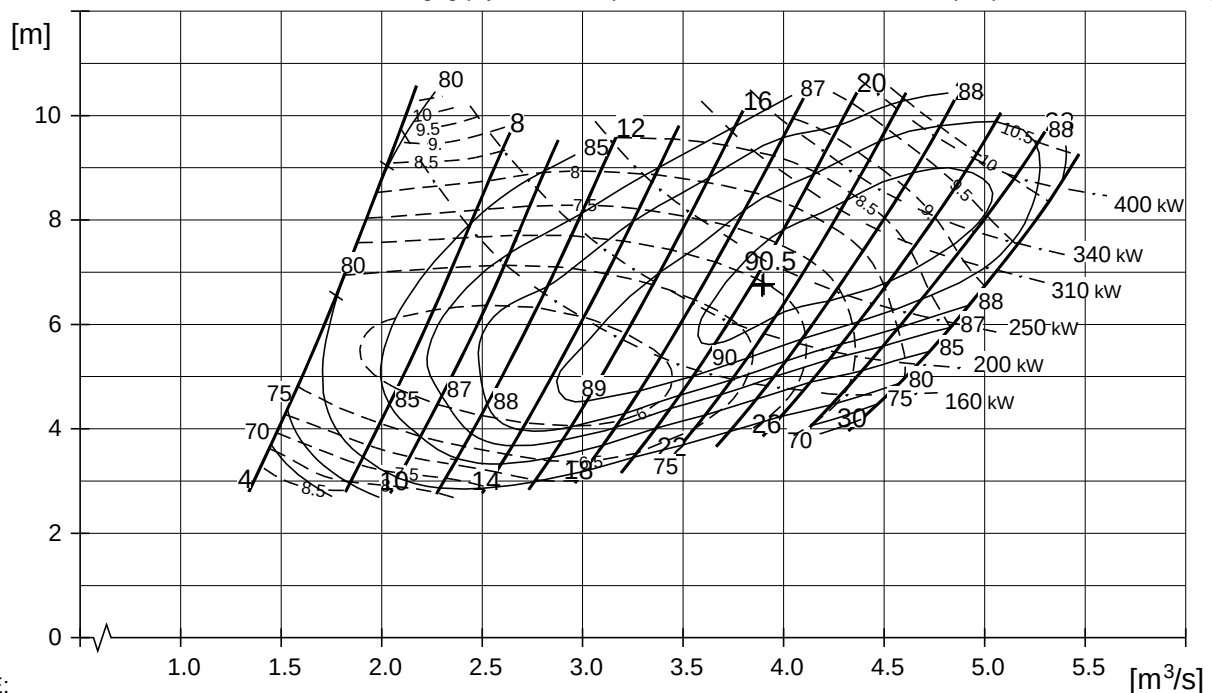
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

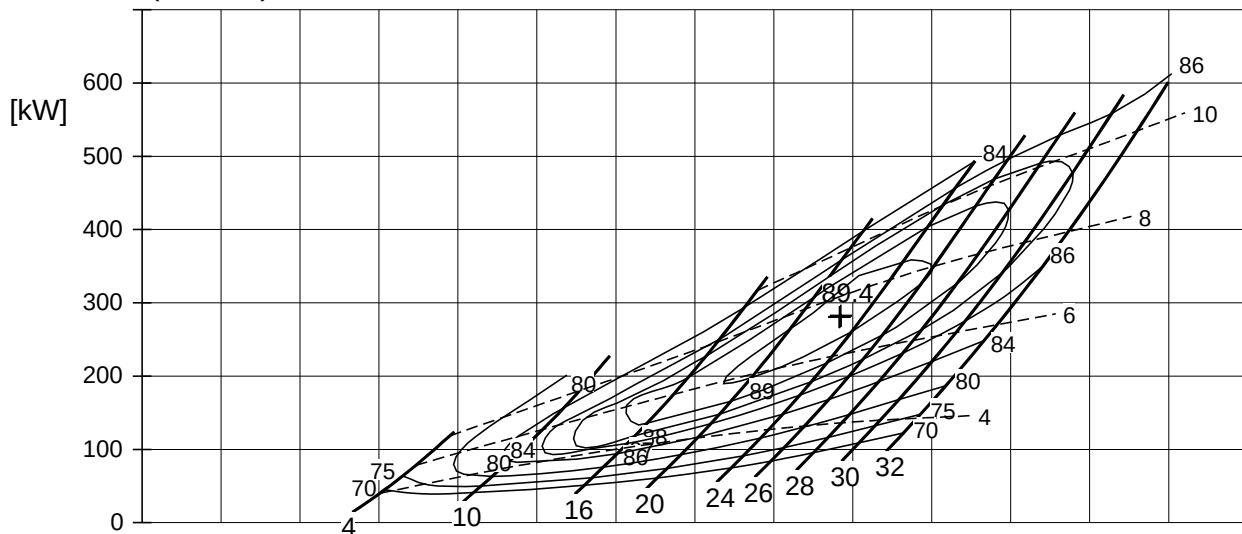
53- 382 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
382 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-6BC	6	160 kW	350-13	1: 2.681	95.7% - 94.8%
765	43-56-6BC	6	200	350-13	1: 2.681	96.3% - 95.5%
835	54-52-6AA	6	250	350-13	1: 2.681	96.7% - 96.1%
905	66-46-6AA	6	310	350-13	1: 2.681	97.1% - 96.6%
865	54-66-6AA	6	340	350-13	1: 2.681	97.2% - 96.8%
905	66-56-6AA	6	400	350-13	1: 2.681	97.5% - 97.0%
935	66-66-6AA	6	465	350-13	1: 2.681	97.6% - 97.3%
935	66-76-6AA	6	600	360-13	1: 2.674	97.8% - 97.6%

POWER (SHAFT)

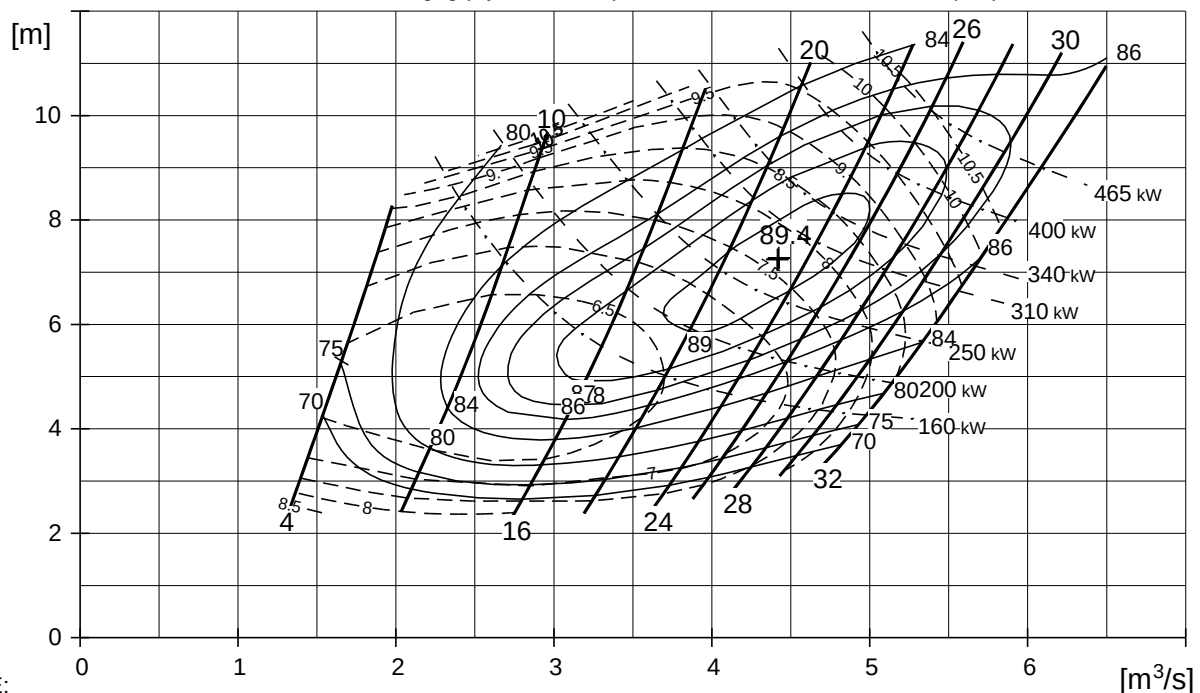
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

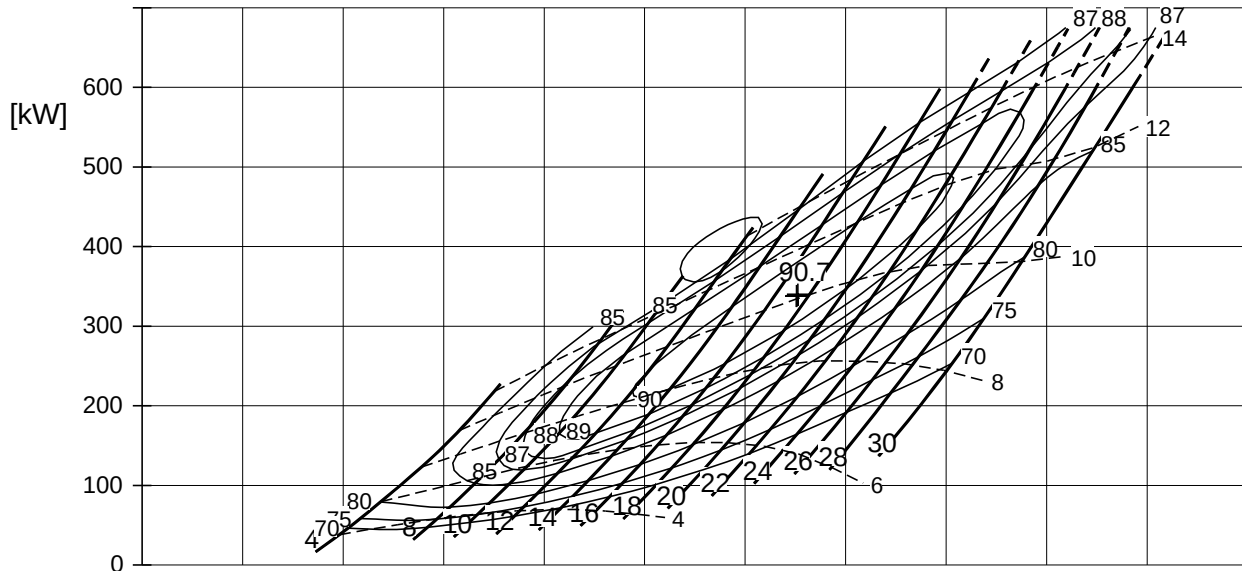
53- 433 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
433 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
835	54-52-6AA	6	250 kW	350-13	1: 2.333	97.3% - 96.8%
865	54-66-6AA	6	340	350-13	1: 2.333	97.7% - 97.4%
905	66-56-6AA	6	400	350-13	1: 2.333	97.9% - 97.6%
935	66-66-6AA	6	500	350-13	1: 2.333	98.1% - 97.8%
935	66-76-6AA	6	600	360-13	1: 2.321	98.1% - 98.0%

POWER (SHAFT)

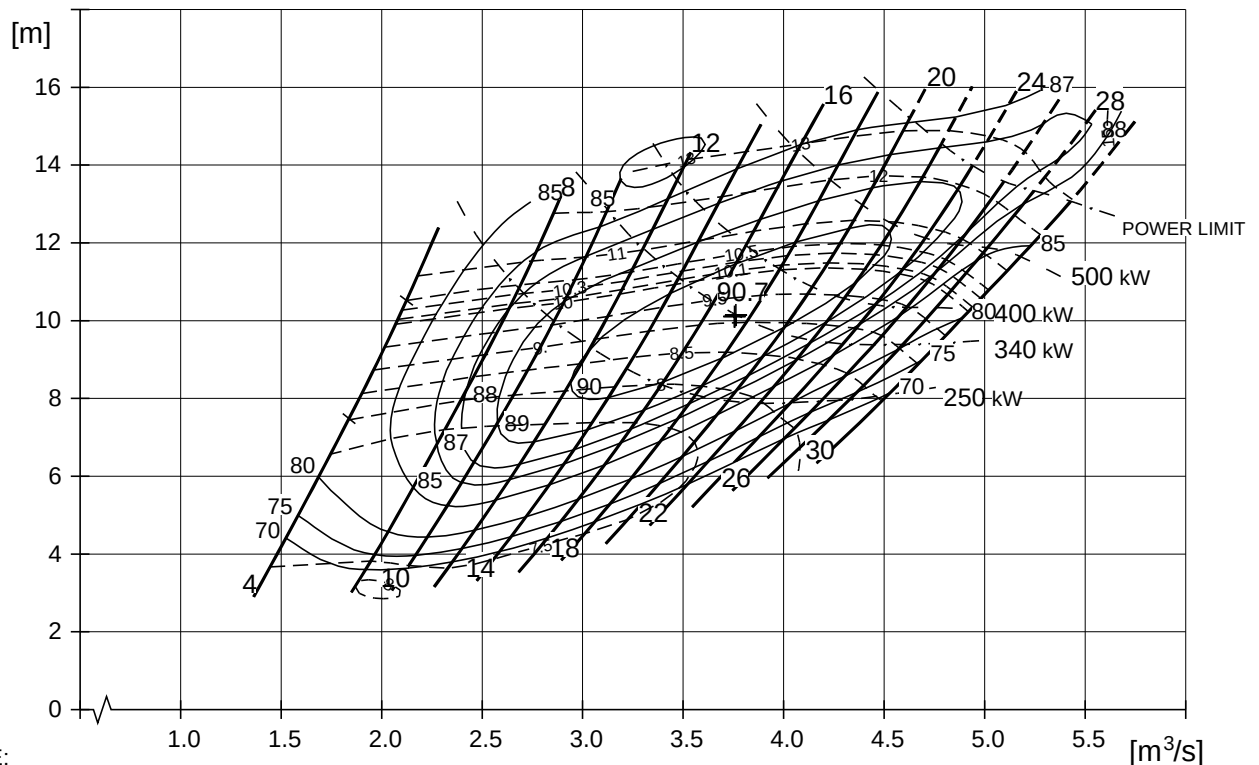
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

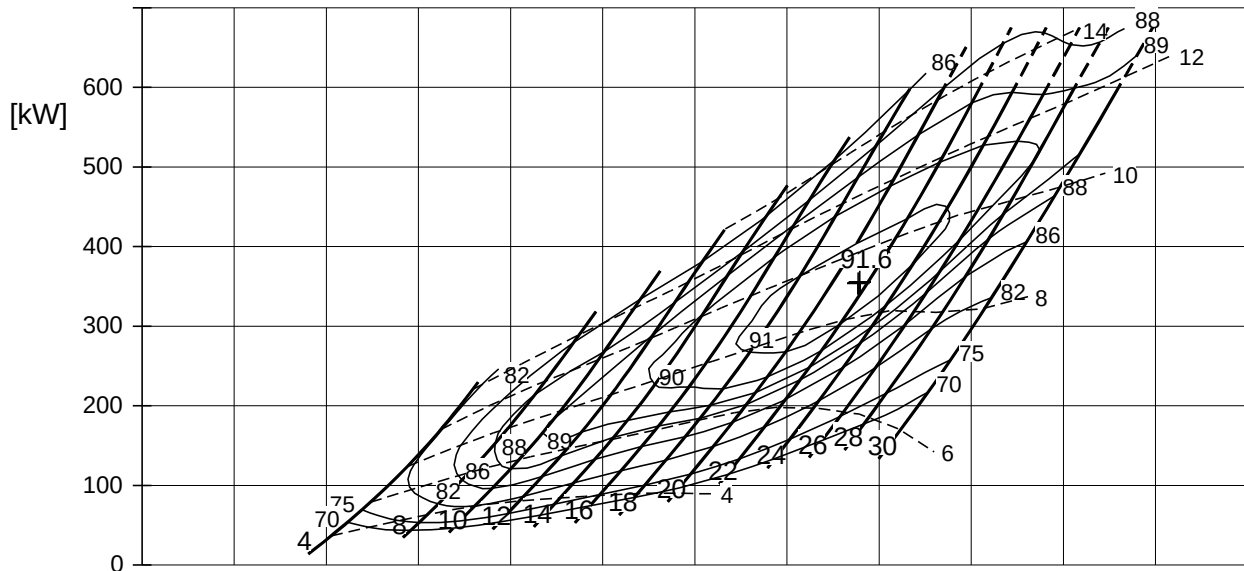
53- 433 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
433 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
835	54-52-6AA	6	250 kW	350-13	1: 2.333	97.3% - 96.8%
865	54-66-6AA	6	340	350-13	1: 2.333	97.7% - 97.4%
905	66-56-6AA	6	400	350-13	1: 2.333	97.9% - 97.6%
935	66-66-6AA	6	500	350-13	1: 2.333	98.1% - 97.8%
935	66-76-6AA	6	600	360-13	1: 2.321	98.1% - 98.0%

POWER (SHAFT)

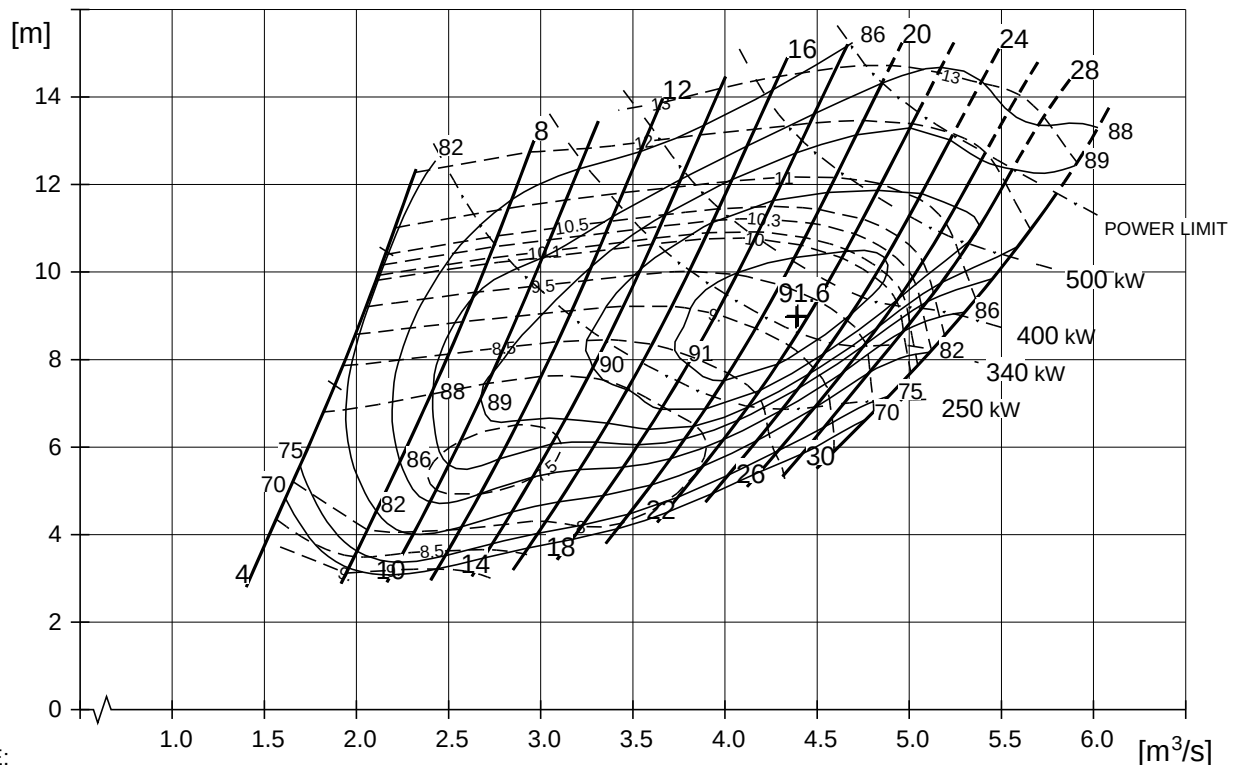
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

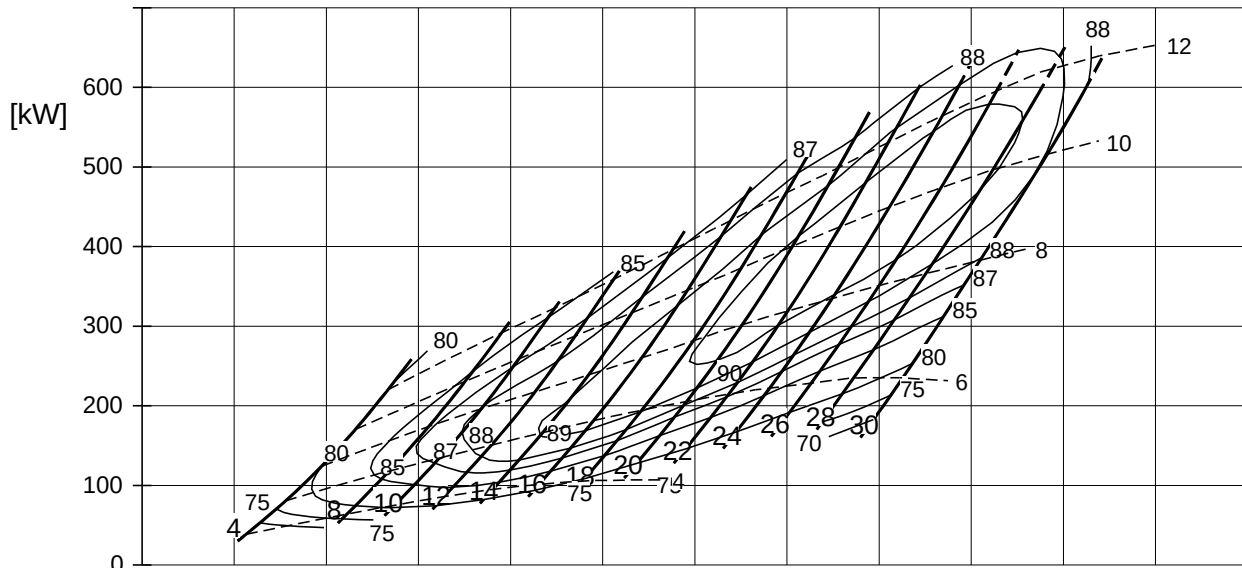
53- 433 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
433 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
835	54-52-6AA	6	250 kW	350-13	1: 2.333	97.3% - 96.8%
865	54-66-6AA	6	340	350-13	1: 2.333	97.7% - 97.4%
905	66-56-6AA	6	400	350-13	1: 2.333	97.9% - 97.6%
935	66-66-6AA	6	500	350-13	1: 2.333	98.1% - 97.8%
935	66-76-6AA	6	600	360-13	1: 2.321	98.1% - 98.0%

POWER (SHAFT)

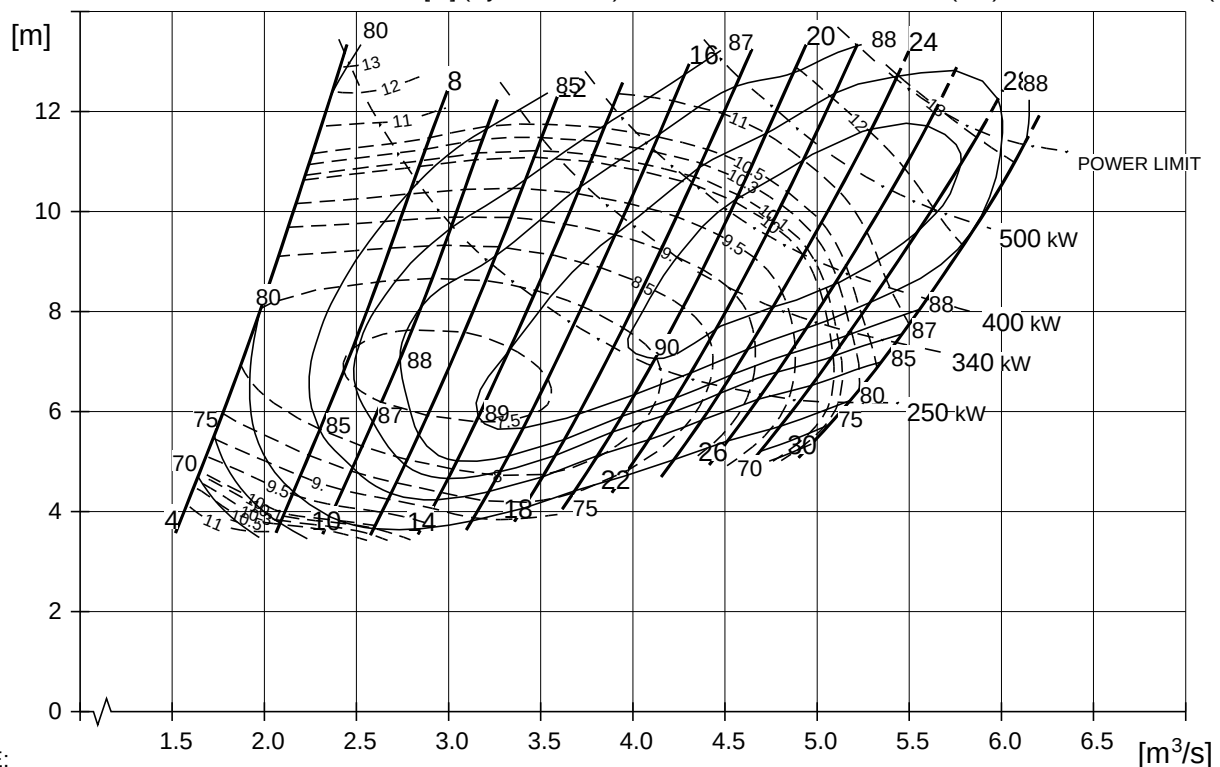
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

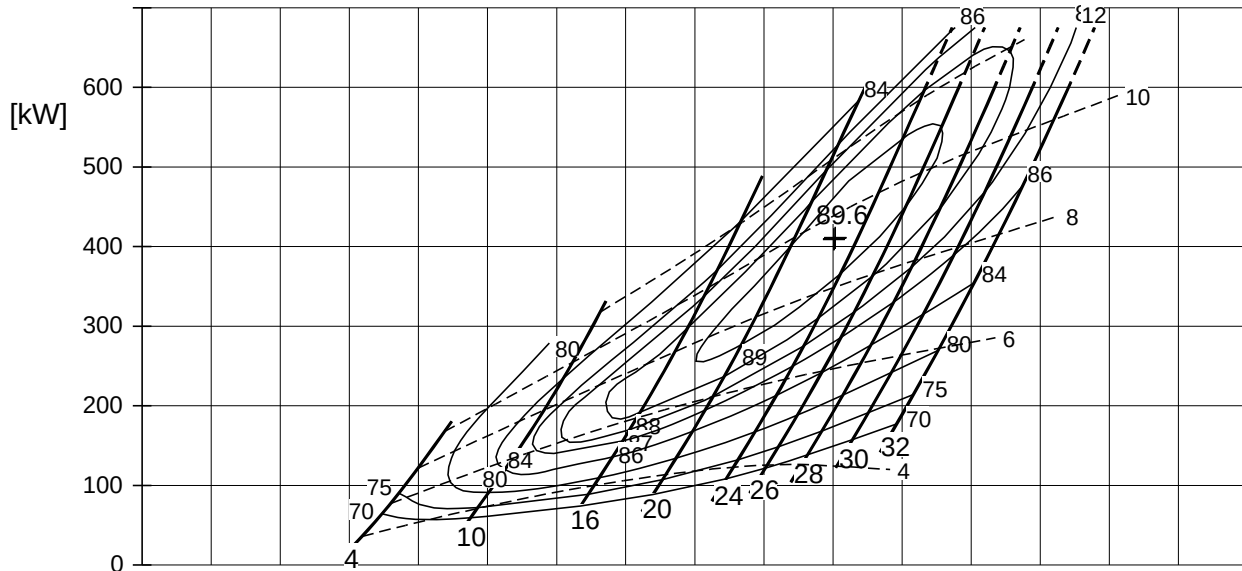
53- 433 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
433 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
835	54-52-6AA	6	250 kW	350-13	1: 2.333	97.3% - 96.8%
865	54-66-6AA	6	340	350-13	1: 2.333	97.7% - 97.4%
905	66-56-6AA	6	400	350-13	1: 2.333	97.9% - 97.6%
935	66-66-6AA	6	500	350-13	1: 2.333	98.1% - 97.8%
935	66-76-6AA	6	600	360-13	1: 2.321	98.1% - 98.0%

POWER (SHAFT)

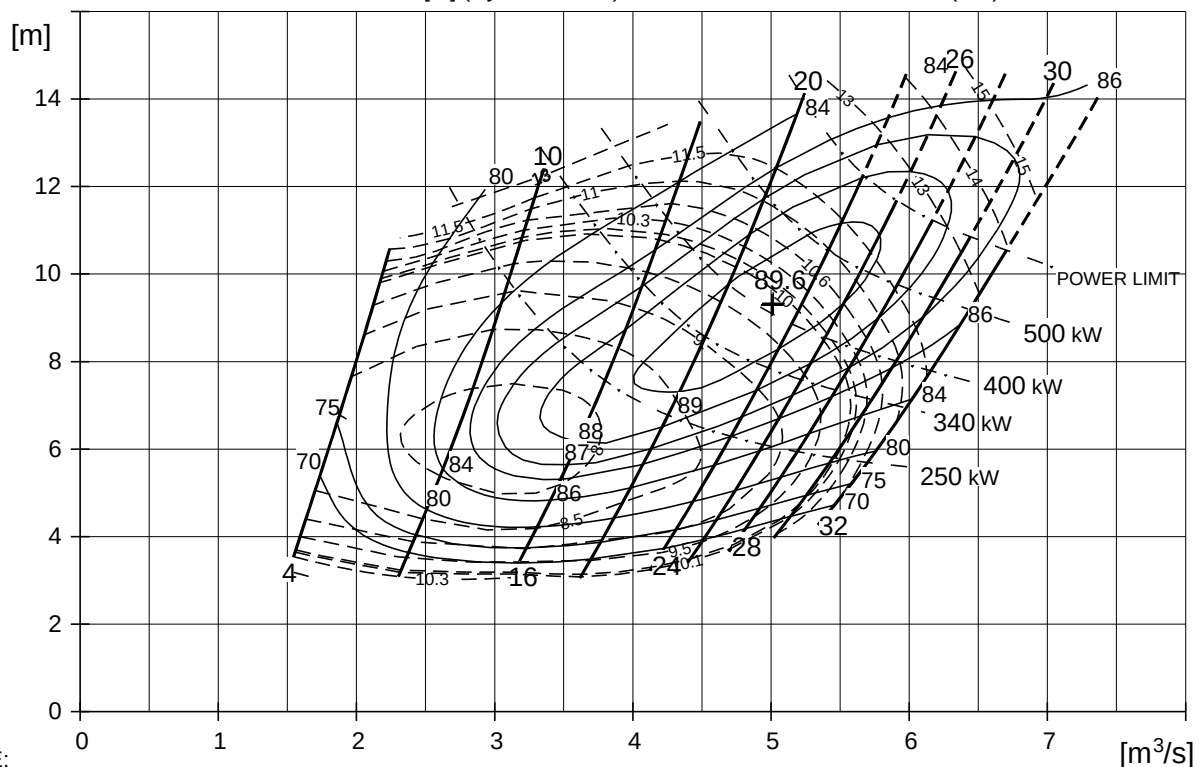
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

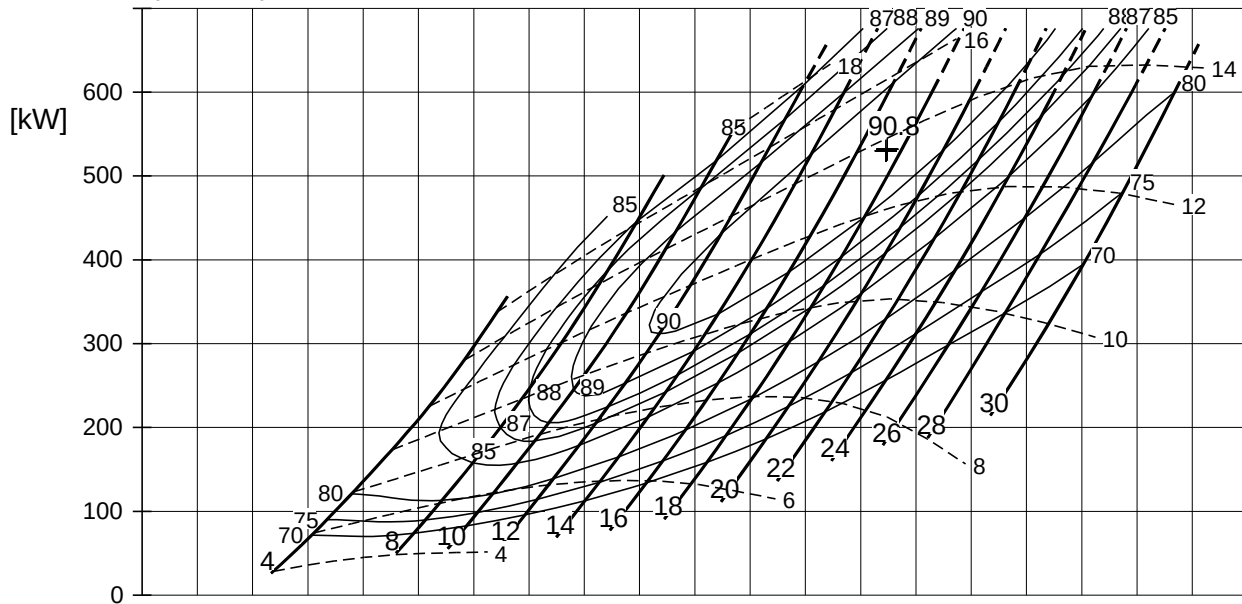
53- 503 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
503 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-56-6AA	6	400 kW	350-13	1: 2.000	97.7% - 97.4%
935	66-66-6AA	6	500	350-13	1: 2.000	97.9% - 97.7%
935	66-76-6AA	6	600	360-13	1: 2.000	98.0% - 97.8%

POWER (SHAFT)

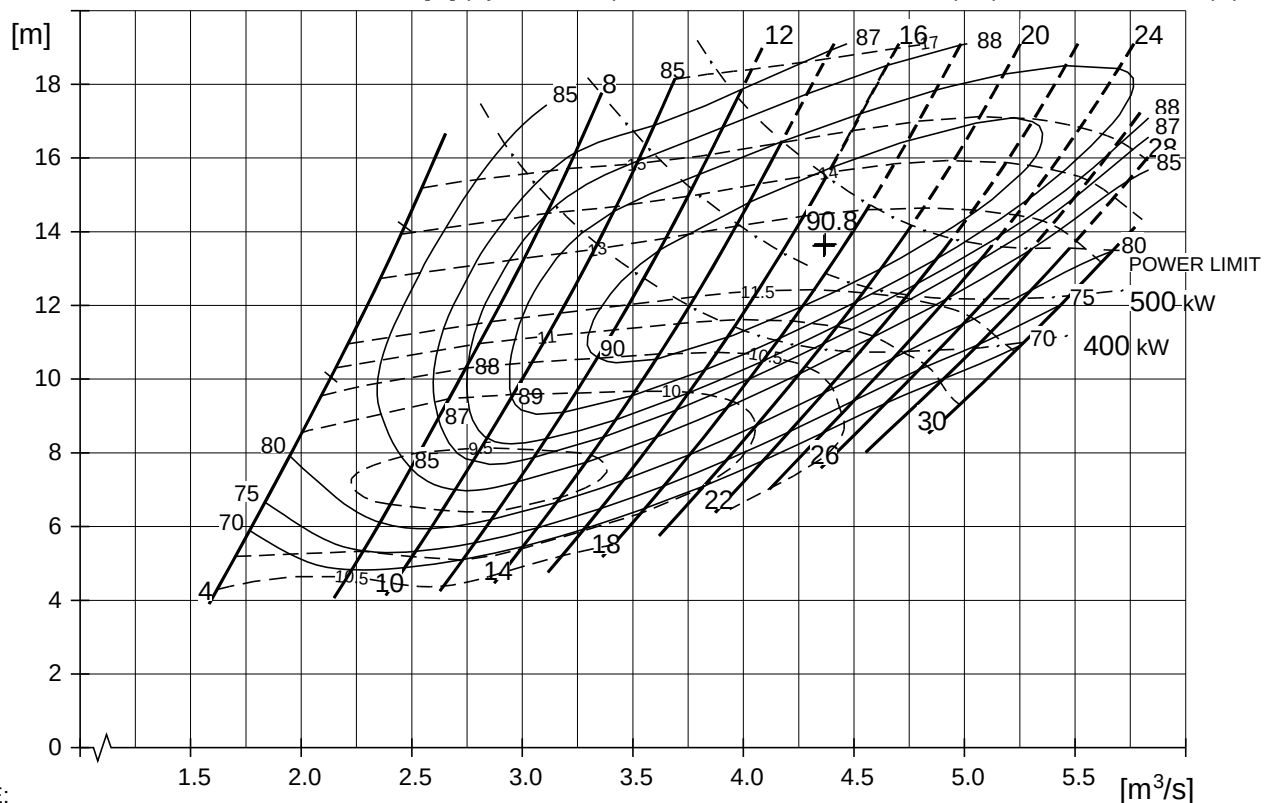
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

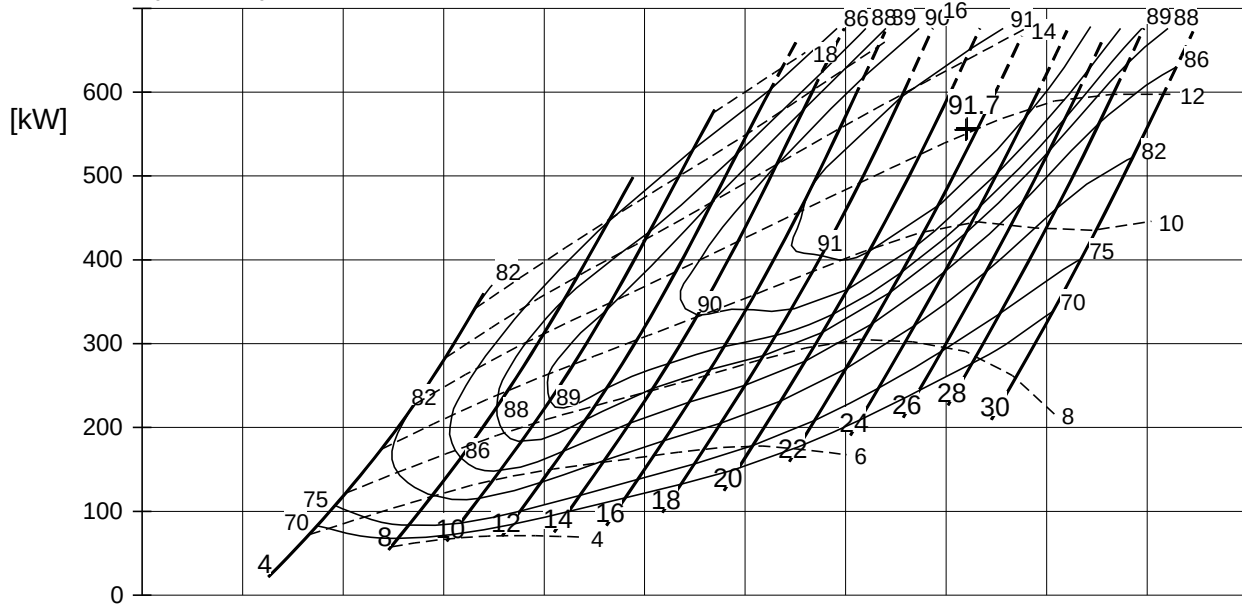
53- 503 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
503 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-56-6AA	6	400 kW	350-13	1: 2.000	97.7% - 97.4%
935	66-66-6AA	6	500	350-13	1: 2.000	97.9% - 97.7%
935	66-76-6AA	6	600	360-13	1: 2.000	98.0% - 97.8%

POWER (SHAFT)

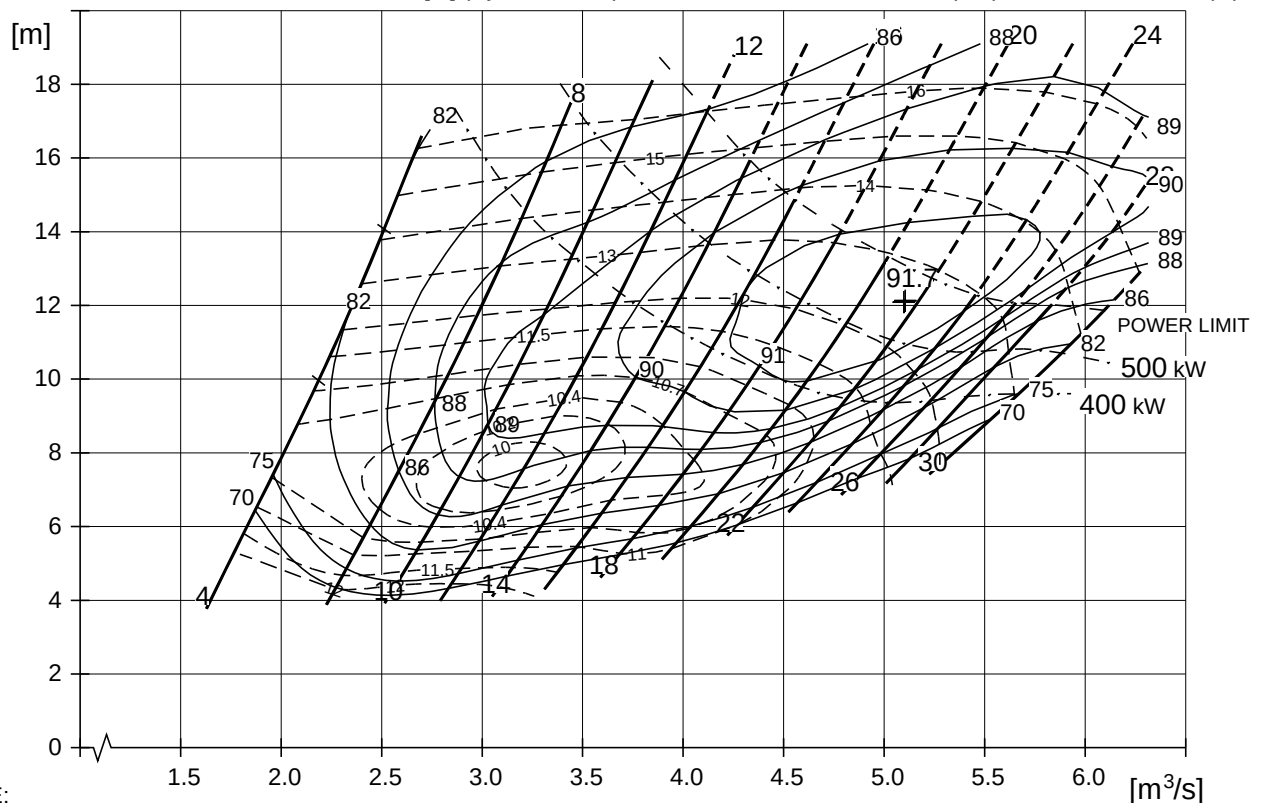
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

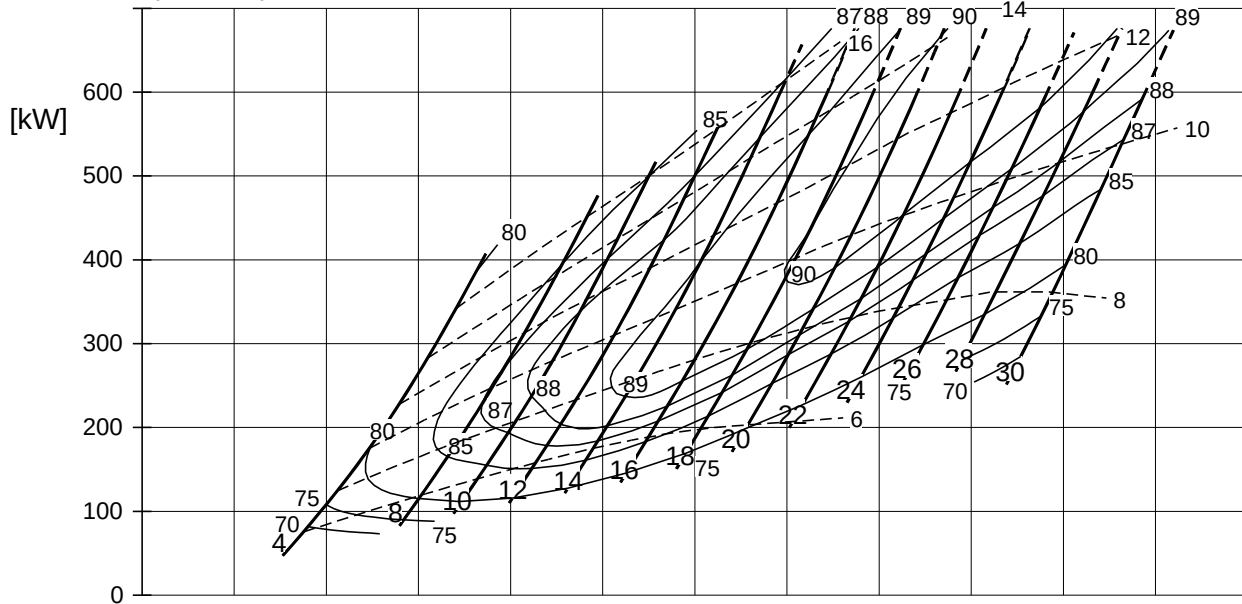
53- 503 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
503 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-56-6AA	6	400 kW	350-13	1: 2.000	97.7% - 97.4%
935	66-66-6AA	6	500	350-13	1: 2.000	97.9% - 97.7%
935	66-76-6AA	6	600	360-13	1: 2.000	98.0% - 97.8%

POWER (SHAFT)

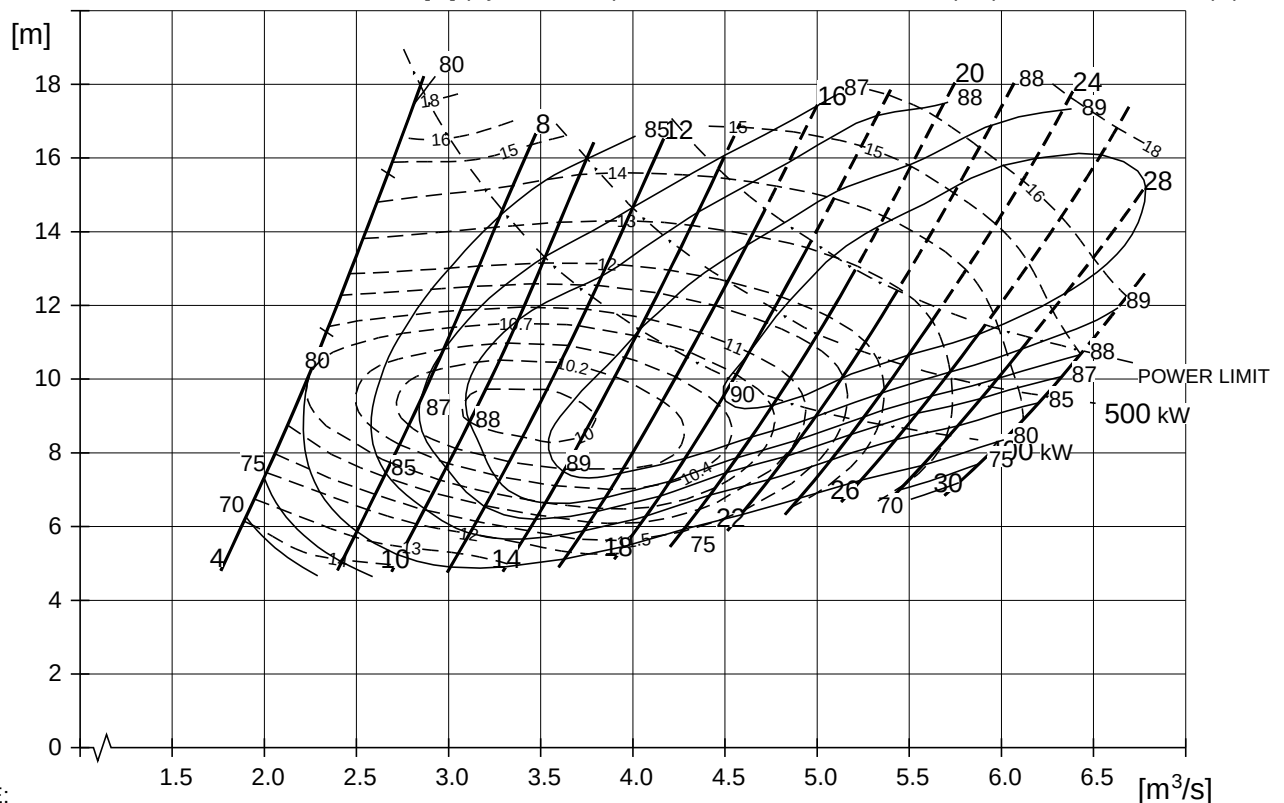
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

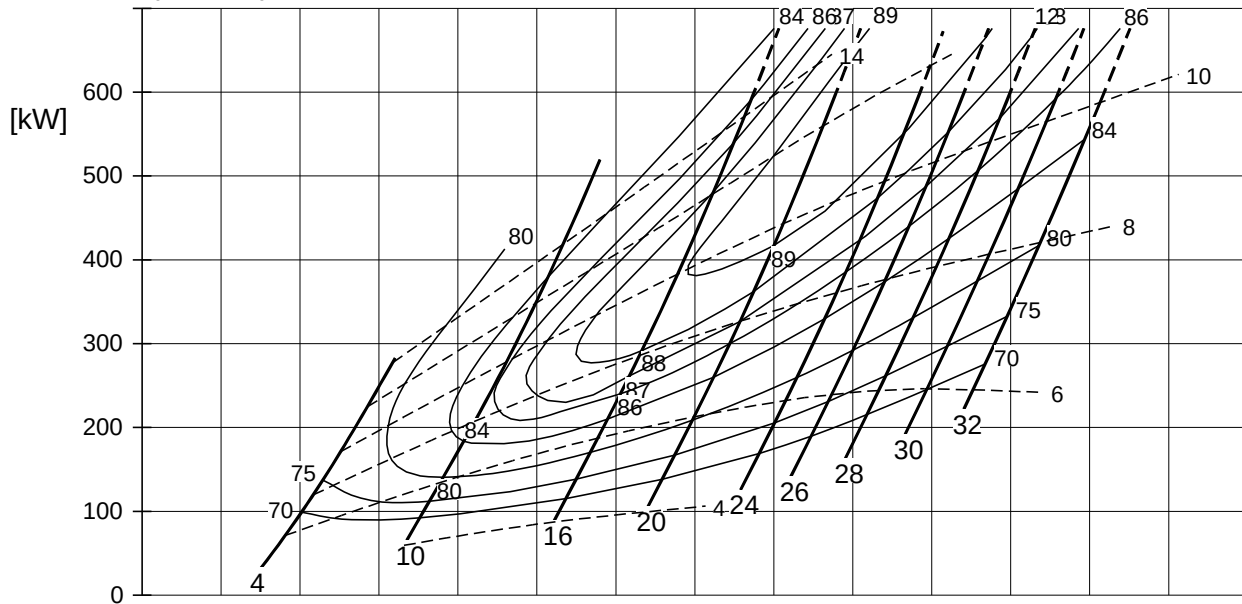
53- 503 C4E

DATE
2016-02-14ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
503 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-56-6AA	6	400 kW	350-13	1: 2.000	97.7% - 97.4%
935	66-66-6AA	6	500	350-13	1: 2.000	97.9% - 97.7%
935	66-76-6AA	6	600	360-13	1: 2.000	98.0% - 97.8%

POWER (SHAFT)

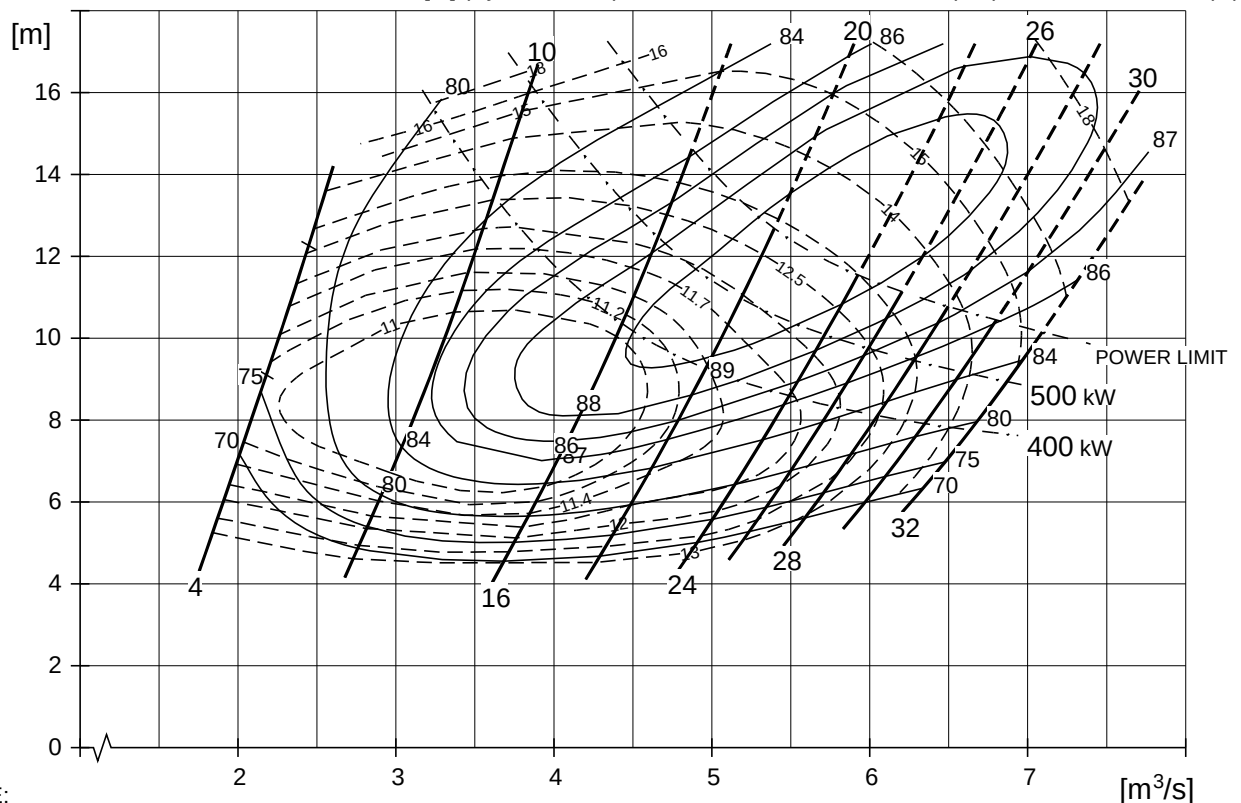
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

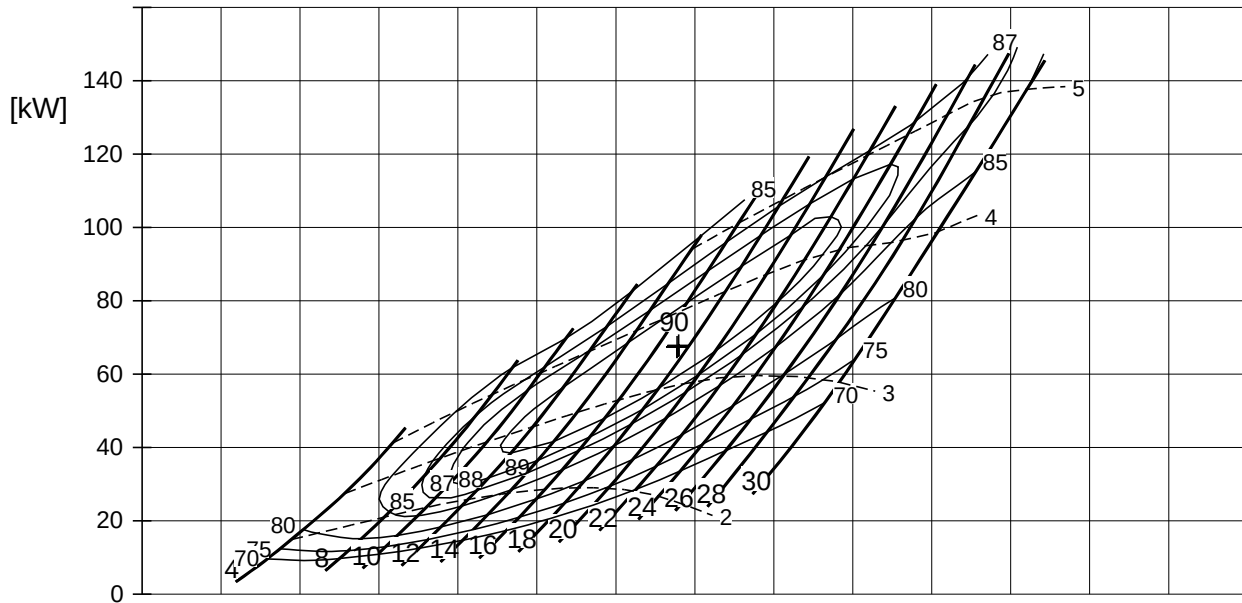
53- 253C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
253 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-4AA	4	135 kW	350-12	1: 6.000	94.6% - 93.4%
735	43-44-4AA	4	190	350-12	1: 6.000	95.7% - 94.8%
765	43-56-4AA	4	230	350-12	1: 6.000	96.2% - 95.4%

POWER (SHAFT)

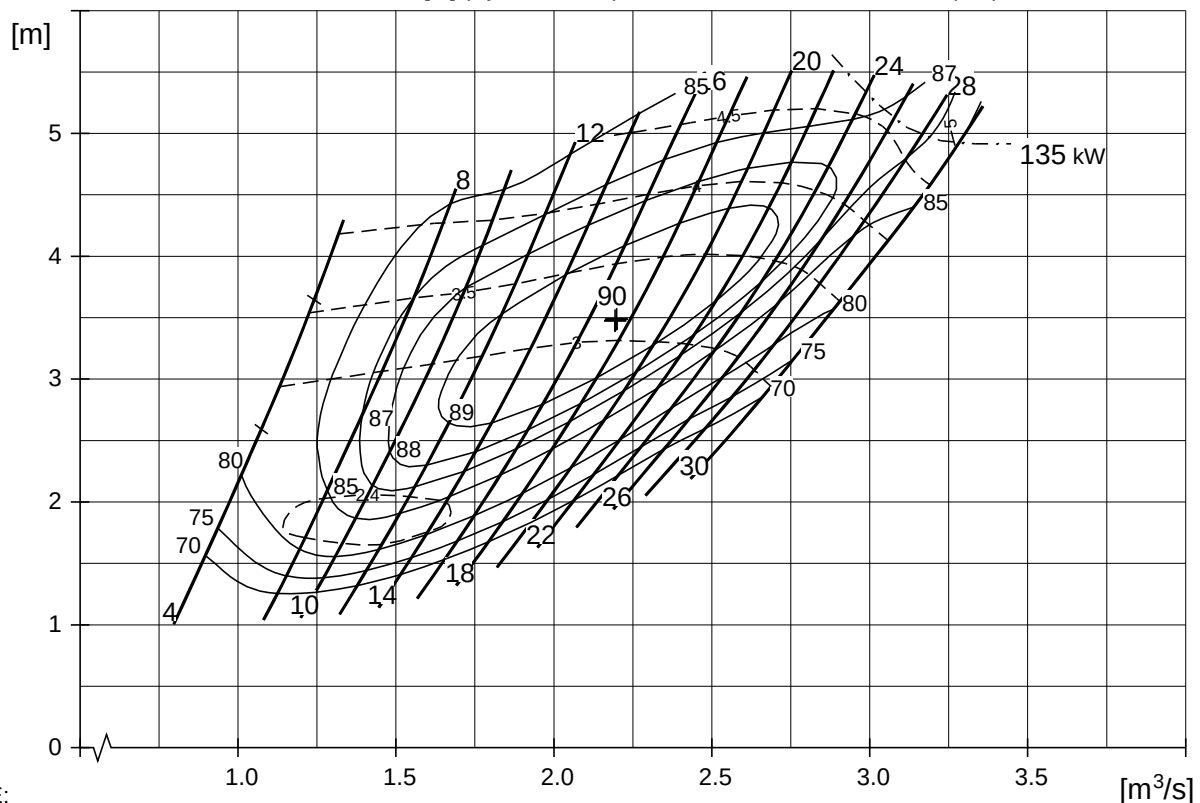
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

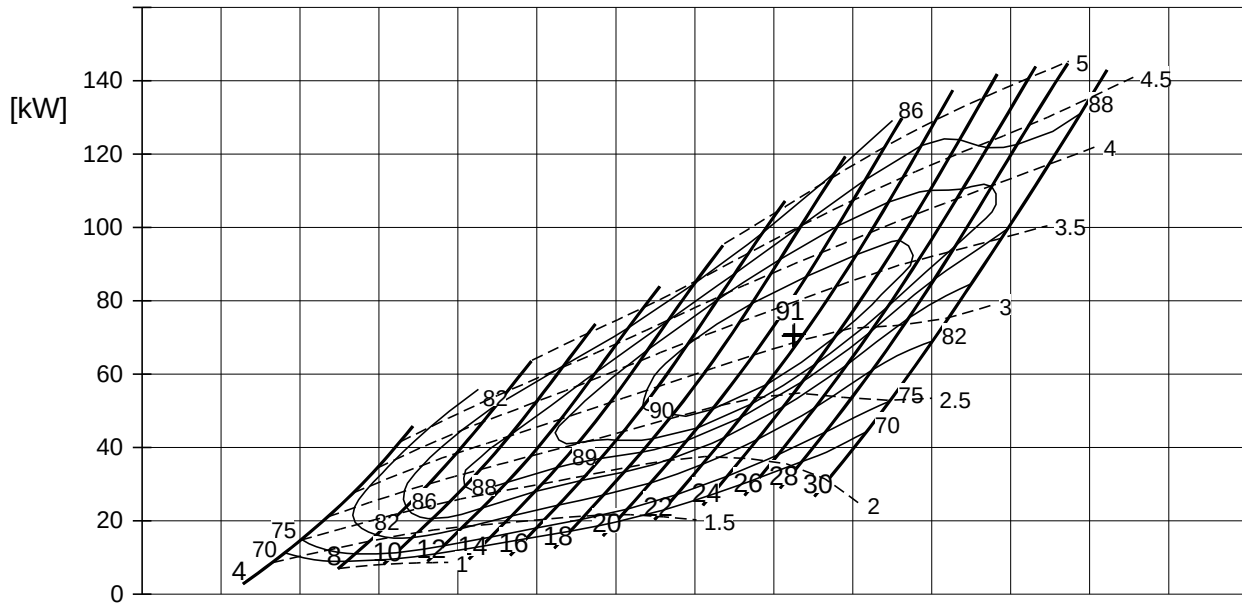
53- 253C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
253 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-4AA	4	135 kW	350-12	1: 6.000	94.6% - 93.4%
735	43-44-4AA	4	190	350-12	1: 6.000	95.7% - 94.8%
765	43-56-4AA	4	230	350-12	1: 6.000	96.2% - 95.4%

POWER (SHAFT)

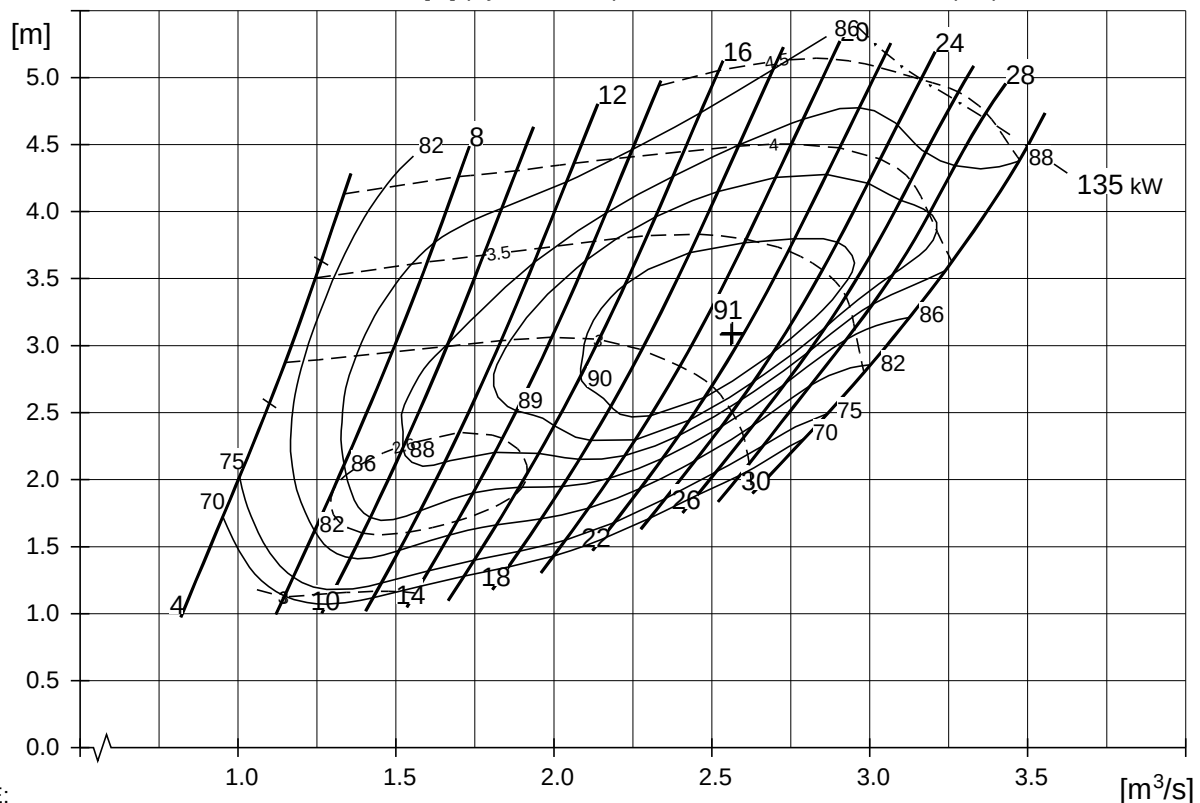
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

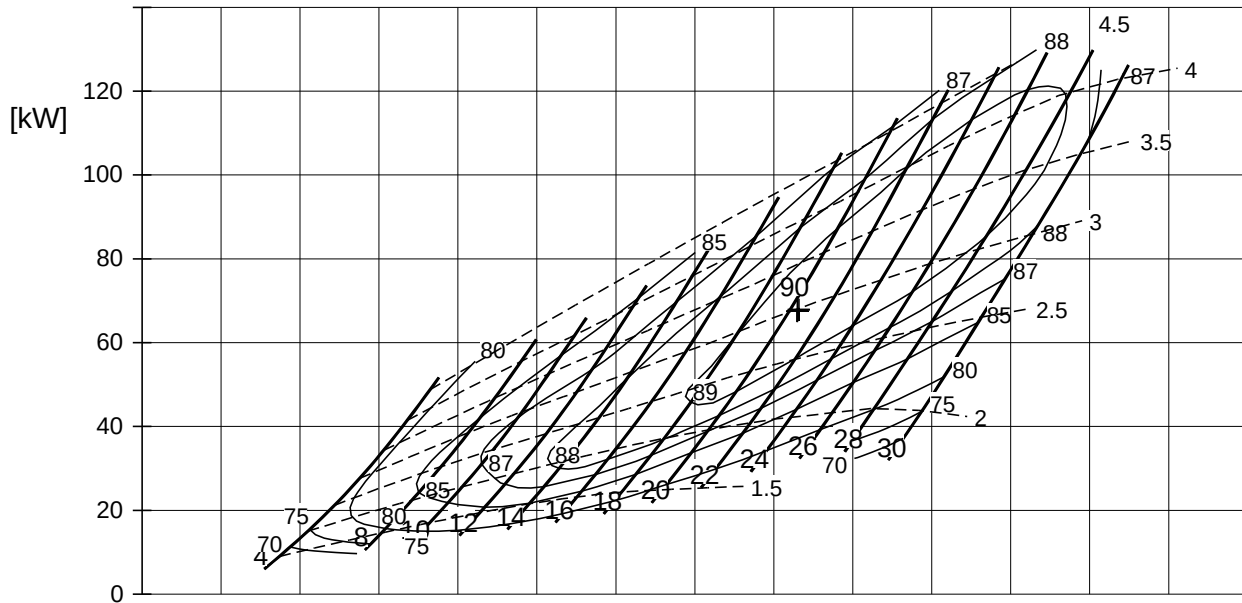
53- 253C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
253 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-4AA	4	135 kW	350-12	1: 6.000	94.6% - 93.4%
735	43-44-4AA	4	190	350-12	1: 6.000	95.7% - 94.8%
765	43-56-4AA	4	230	350-12	1: 6.000	96.2% - 95.4%

POWER (SHAFT)

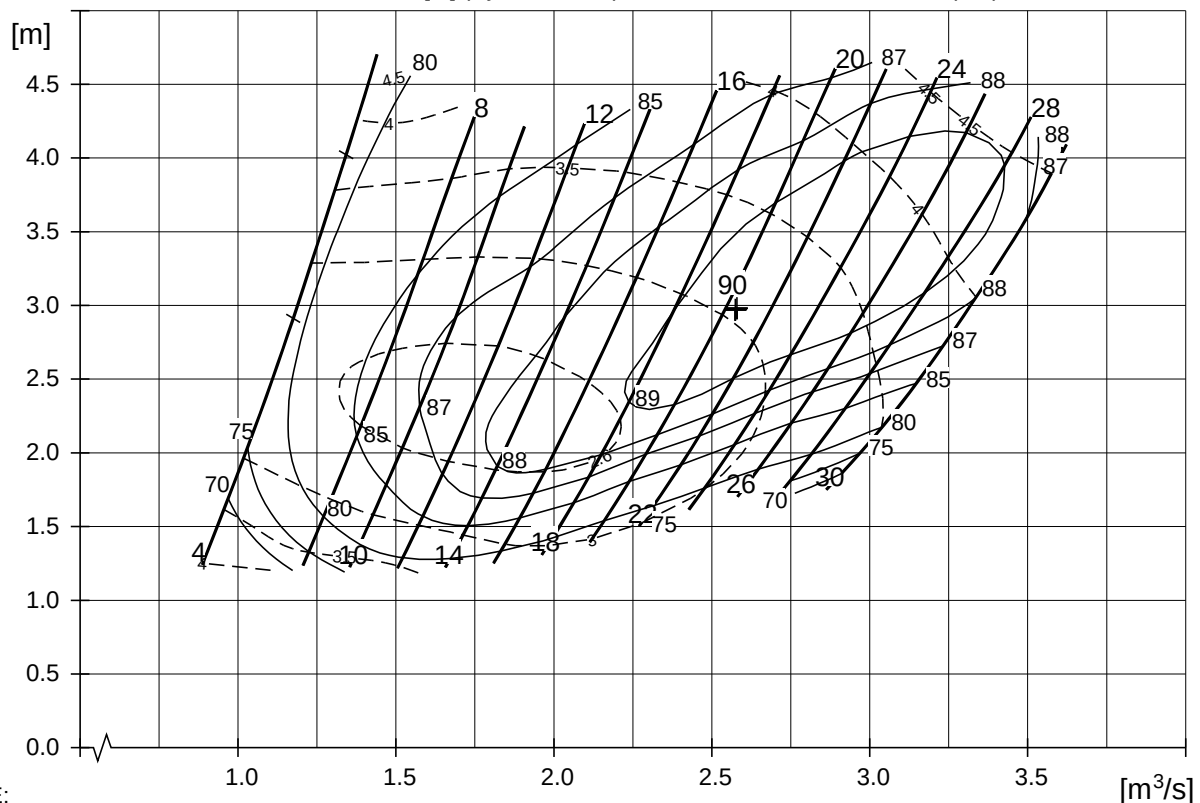
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

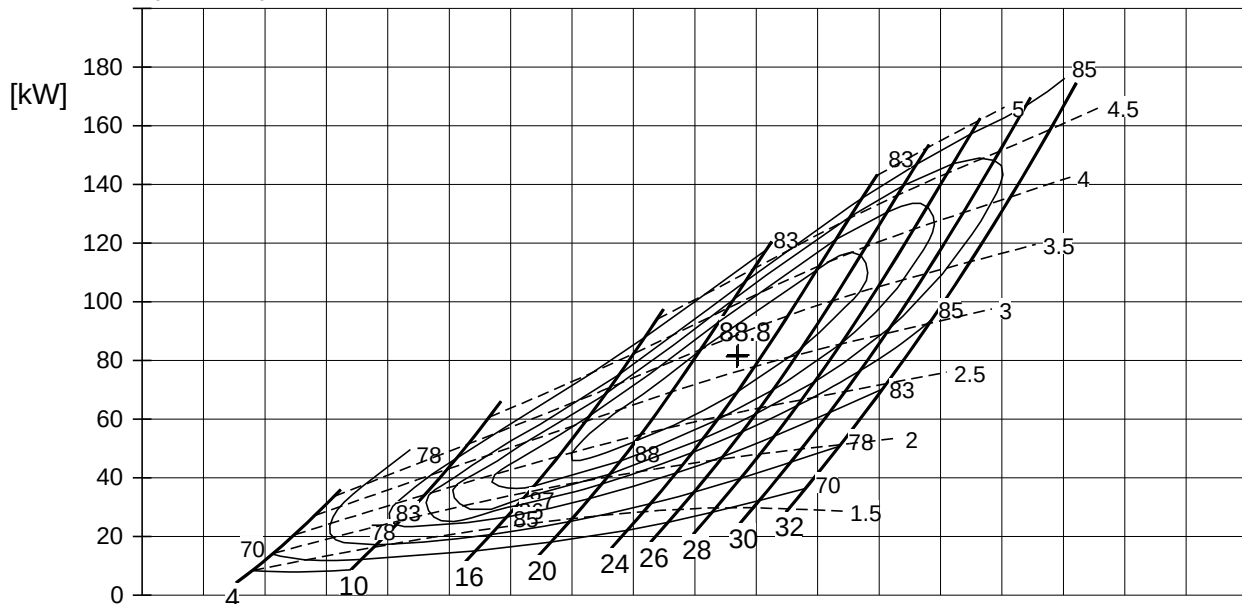
53- 253C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
253 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-4AA	4	135 kW	350-12	1: 6.000	94.6% - 93.4%
735	43-44-4AA	4	190	350-12	1: 6.000	95.7% - 94.8%
765	43-56-4AA	4	230	350-12	1: 6.000	96.2% - 95.4%

POWER (SHAFT)

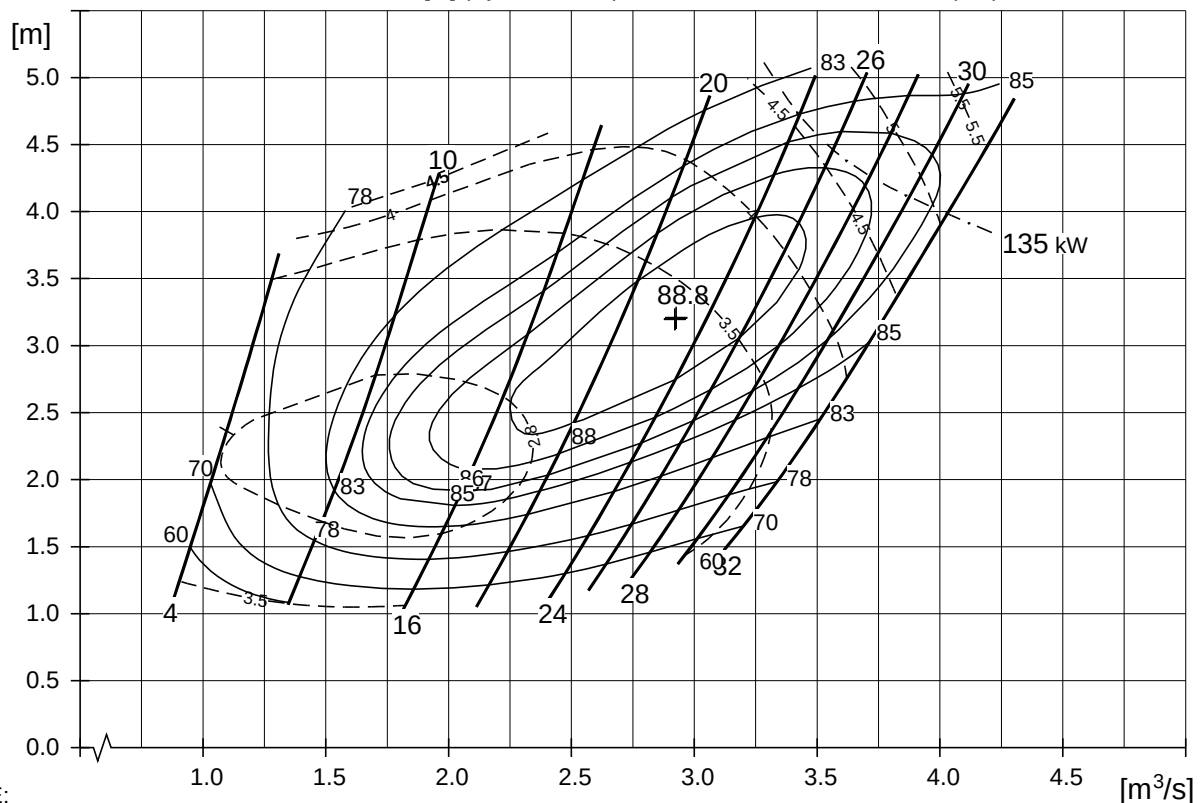
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

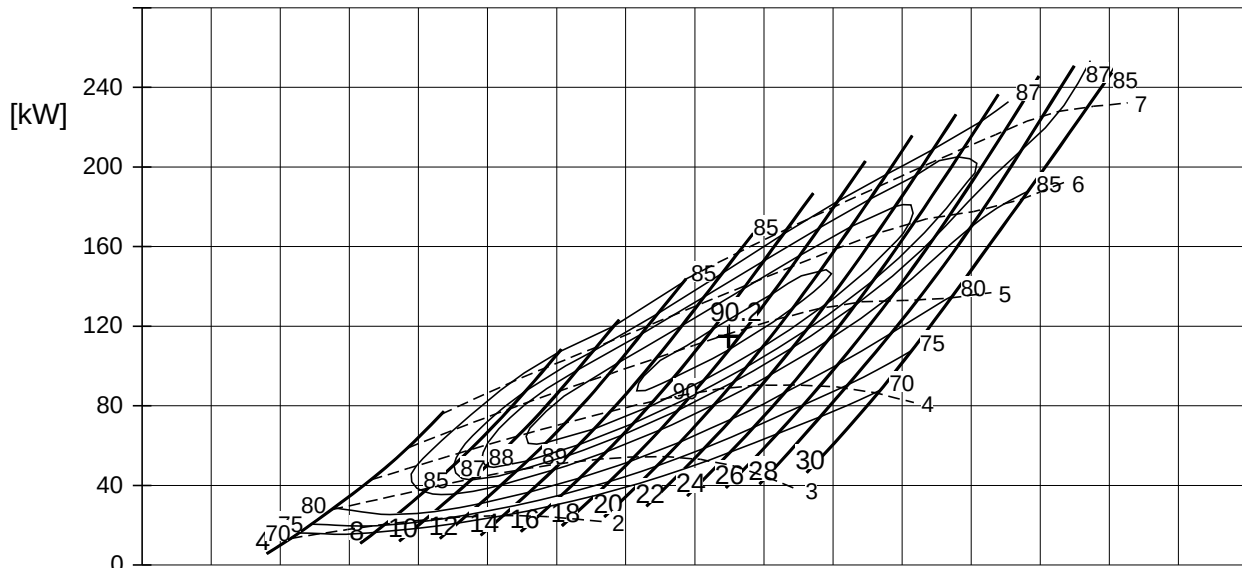
53- 302 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
302 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-4AA	4	135 kW	350-13	1: 5.000	95.7% - 94.7%
735	43-44-4AA	4	190	350-12	1: 5.000	95.3% - 94.2%
765	43-56-4AA	4	230	350-12	1: 5.000	95.8% - 94.9%
835	54-52-4AA	4	290	350-12	1: 5.000	96.3% - 95.6%
865	54-66-4AA	4	375	350-12	1: 5.000	96.8% - 96.3%

POWER (SHAFT)

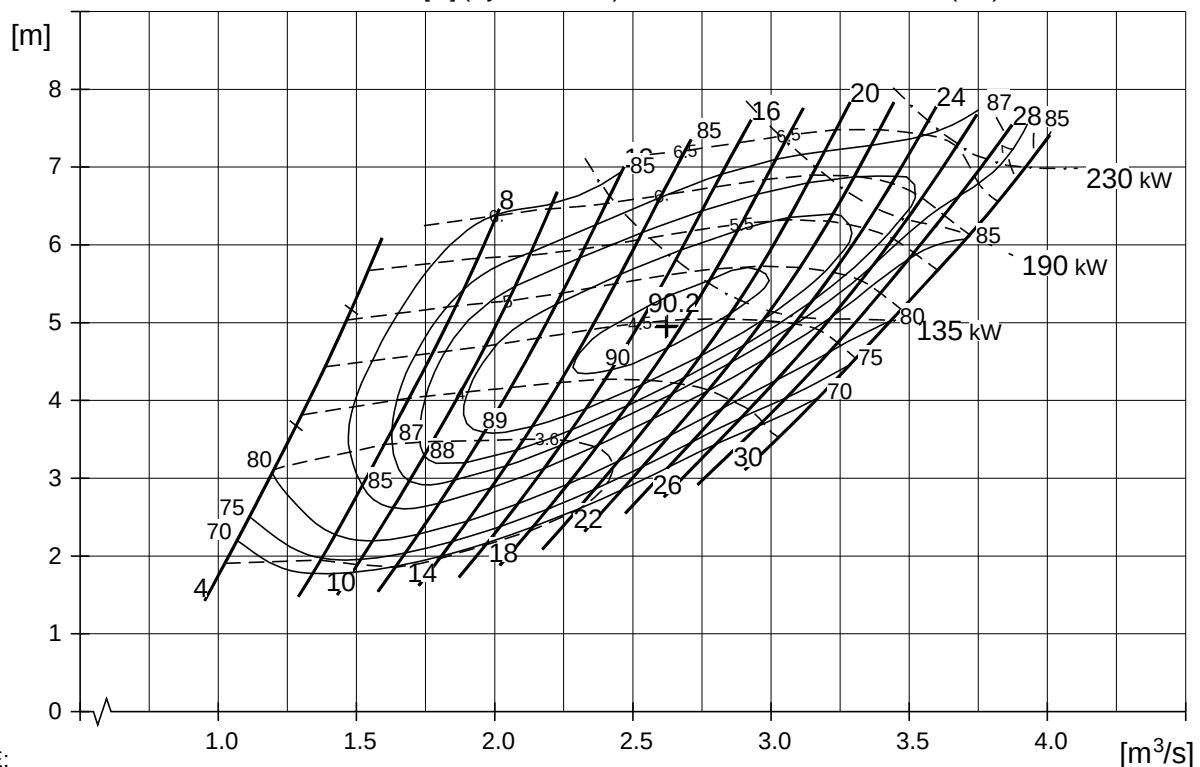
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

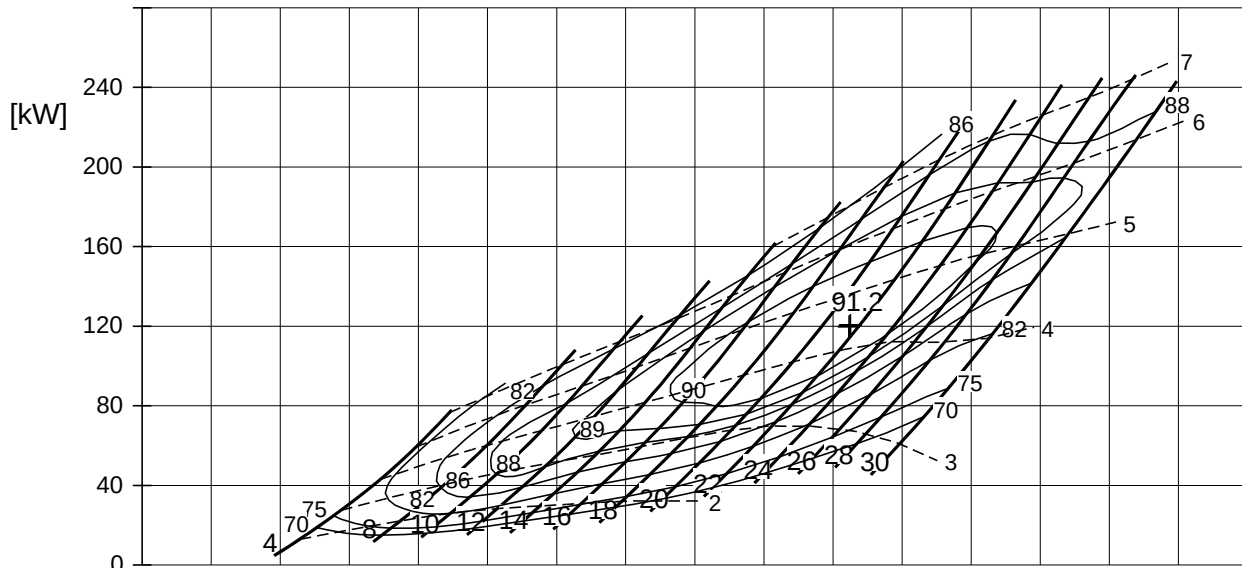
CURVE NO

53- 302 C4EDATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
302 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-4AA	4	135 kW	350-13	1: 5.000	95.7% - 94.7%
735	43-44-4AA	4	190	350-12	1: 5.000	95.3% - 94.2%
765	43-56-4AA	4	230	350-12	1: 5.000	95.8% - 94.9%
835	54-52-4AA	4	290	350-12	1: 5.000	96.3% - 95.6%
865	54-66-4AA	4	375	350-12	1: 5.000	96.8% - 96.3%

POWER (SHAFT)

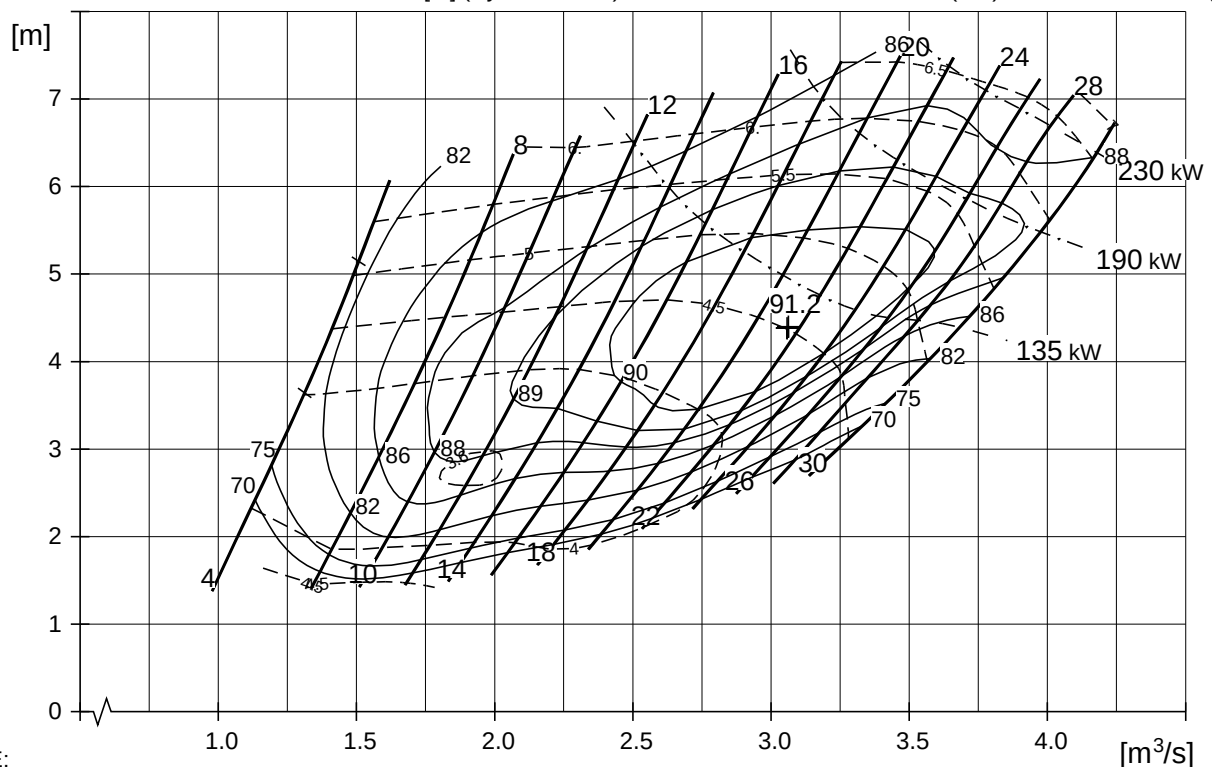
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

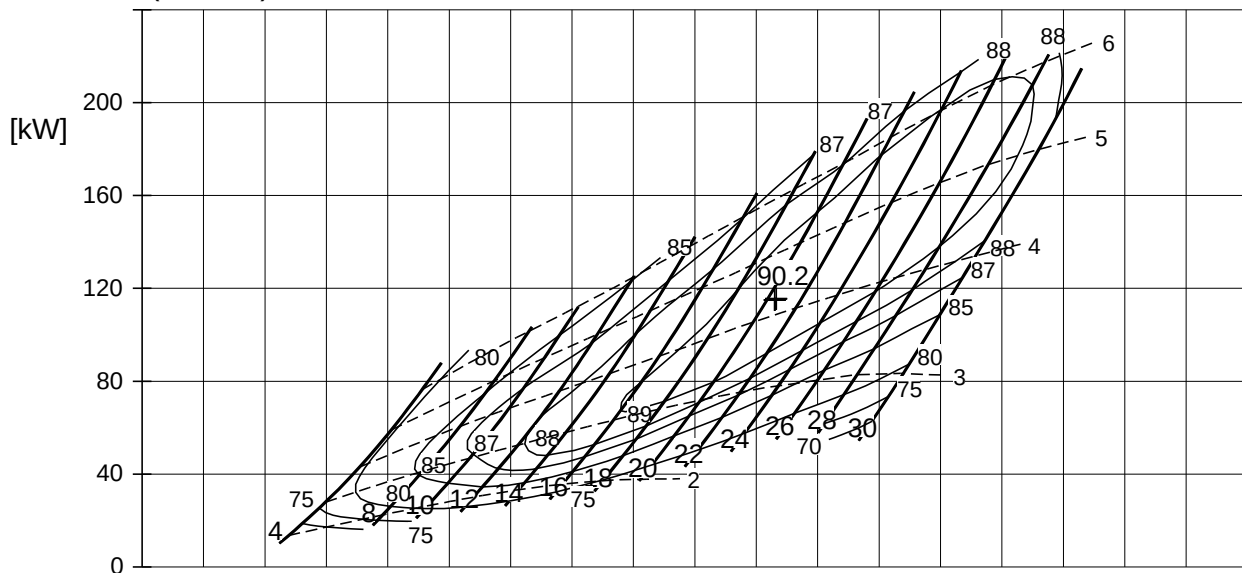
53- 302 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
302 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-4AA	4	135 kW	350-13	1: 5.000	95.7% - 94.7%
735	43-44-4AA	4	190	350-12	1: 5.000	95.3% - 94.2%
765	43-56-4AA	4	230	350-12	1: 5.000	95.8% - 94.9%
835	54-52-4AA	4	290	350-12	1: 5.000	96.3% - 95.6%
865	54-66-4AA	4	375	350-12	1: 5.000	96.8% - 96.3%

POWER (SHAFT)

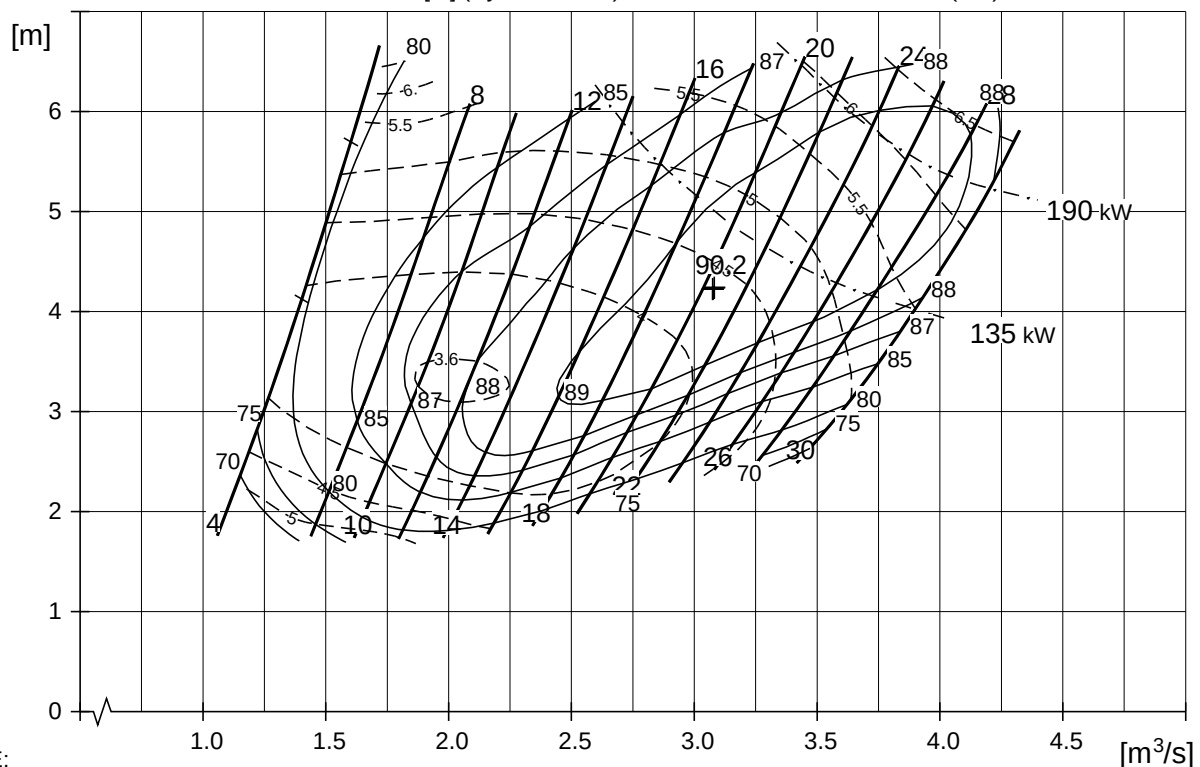
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

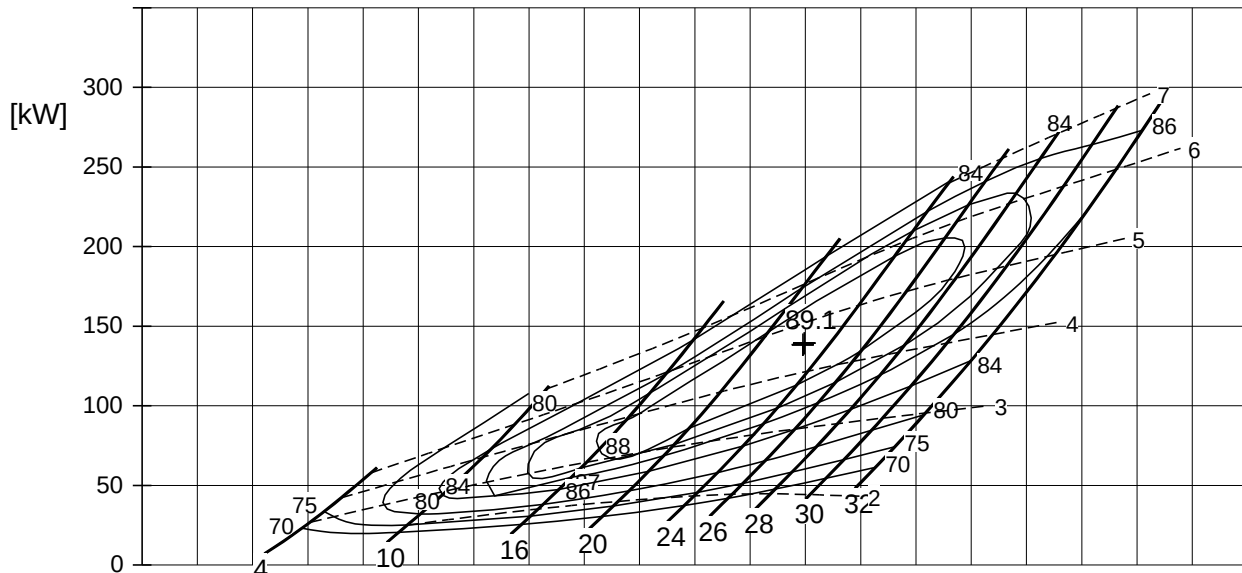
53- 302 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
302 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-4AA	4	135 kW	350-13	1: 5.000	95.7% - 94.7%
735	43-44-4AA	4	190	350-12	1: 5.000	95.3% - 94.2%
765	43-56-4AA	4	230	350-12	1: 5.000	95.8% - 94.9%
835	54-52-4AA	4	290	350-12	1: 5.000	96.3% - 95.6%
865	54-66-4AA	4	375	350-12	1: 5.000	96.8% - 96.3%

POWER (SHAFT)

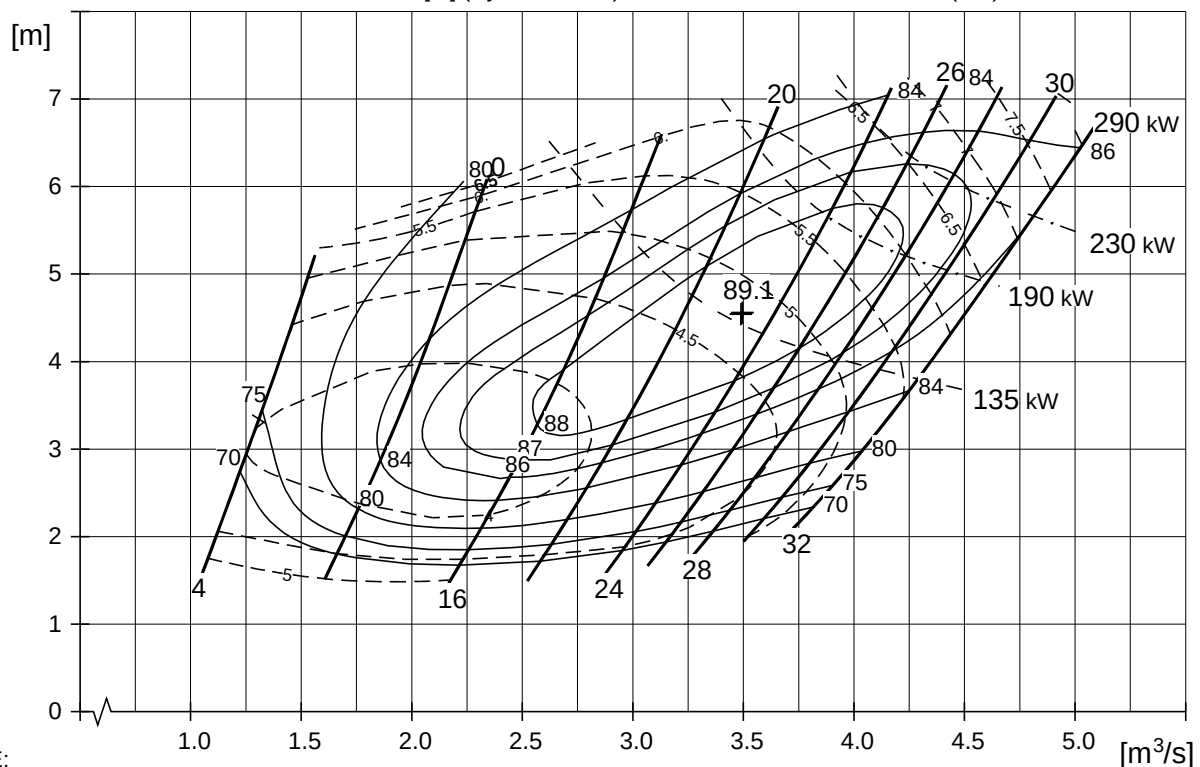
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

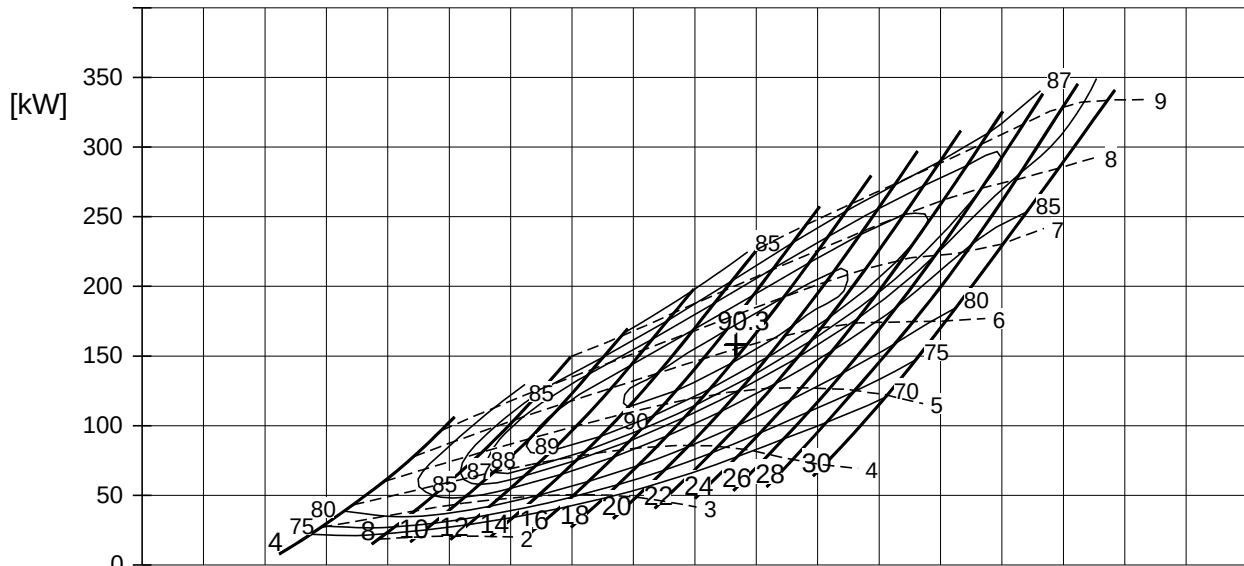
53- 336 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
336 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-4AA	4	135 kW	350-13	1: 4.500	95.5% - 94.4%
735	43-44-4AA	4	190	350-13	1: 4.500	96.4% - 95.6%
765	43-56-4AA	4	230	350-13	1: 4.500	96.8% - 96.1%
835	54-52-4AA	4	290	350-13	1: 4.500	97.2% - 96.7%
865	54-66-4AA	4	375	350-13	1: 4.500	97.5% - 97.1%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)



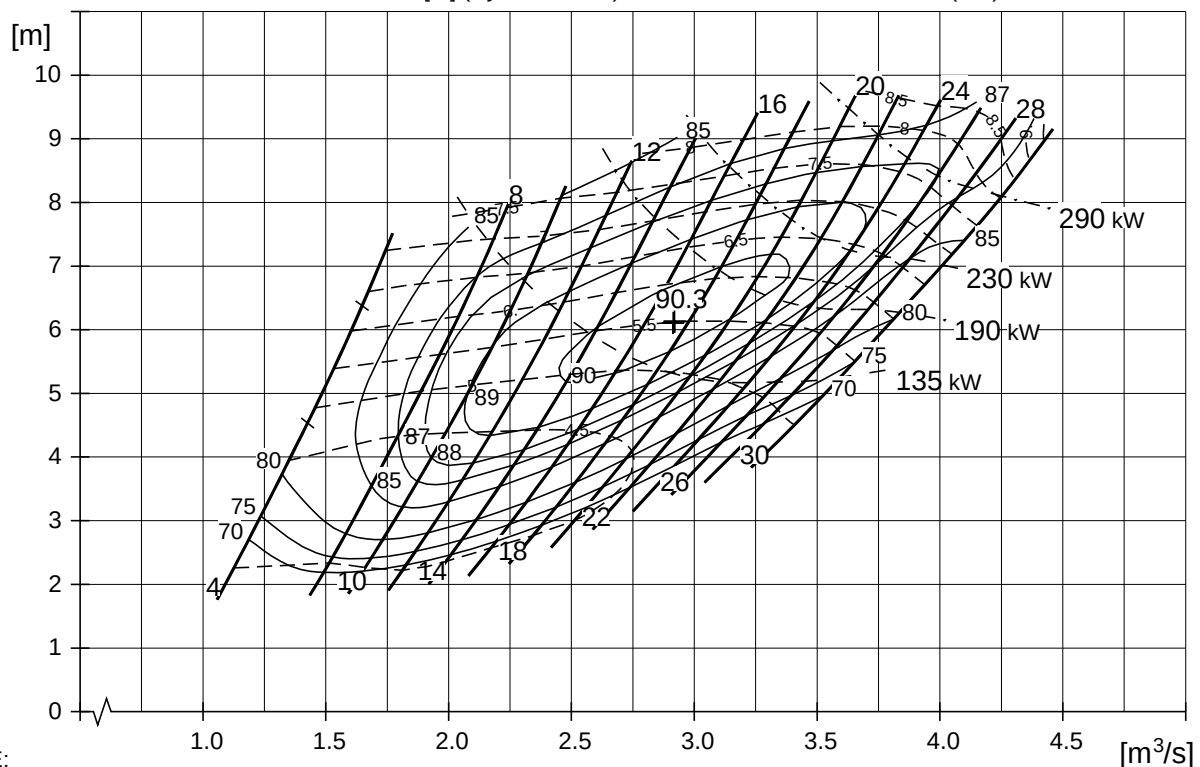
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

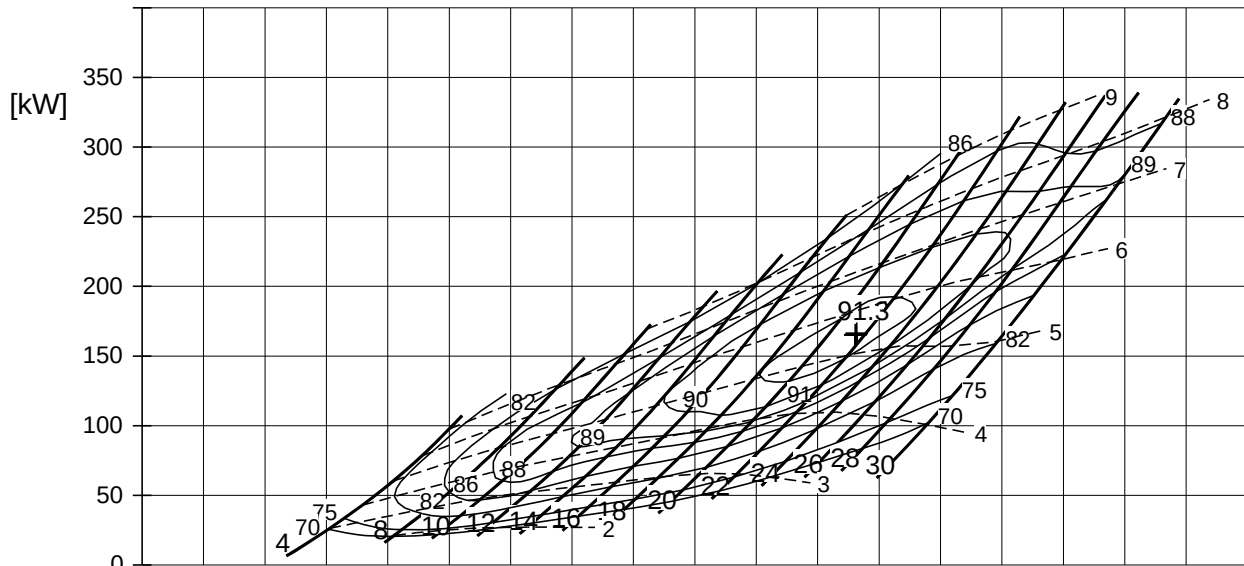
53- 336 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
336 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-4AA	4	135 kW	350-13	1: 4.500	95.5% - 94.4%
735	43-44-4AA	4	190	350-13	1: 4.500	96.4% - 95.6%
765	43-56-4AA	4	230	350-13	1: 4.500	96.8% - 96.1%
835	54-52-4AA	4	290	350-13	1: 4.500	97.2% - 96.7%
865	54-66-4AA	4	375	350-13	1: 4.500	97.5% - 97.1%

POWER (SHAFT)

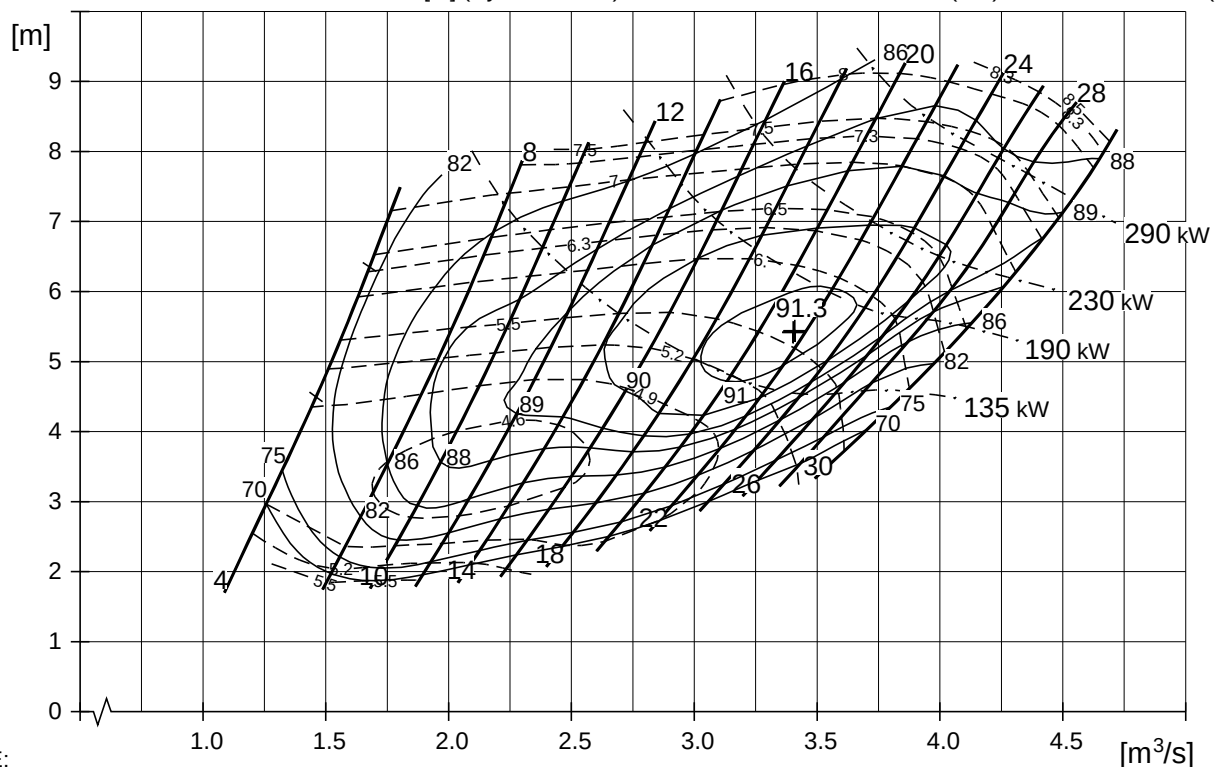
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

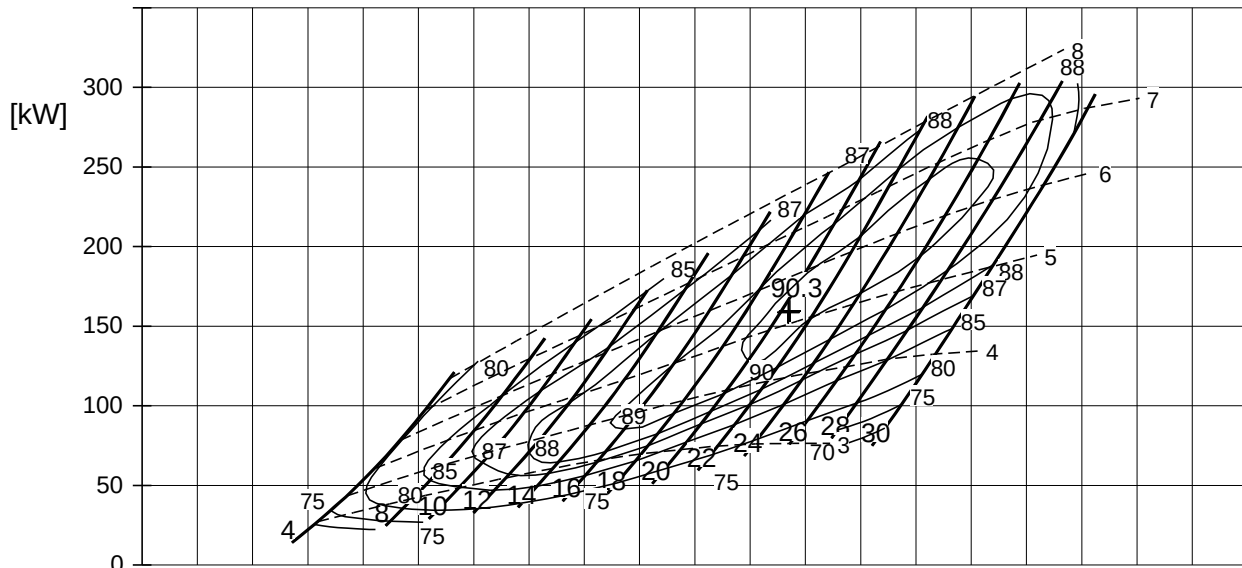
53- 336 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
336 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-4AA	4	135 kW	350-13	1: 4.500	95.5% - 94.4%
735	43-44-4AA	4	190	350-13	1: 4.500	96.4% - 95.6%
765	43-56-4AA	4	230	350-13	1: 4.500	96.8% - 96.1%
835	54-52-4AA	4	290	350-13	1: 4.500	97.2% - 96.7%
865	54-66-4AA	4	375	350-13	1: 4.500	97.5% - 97.1%

POWER (SHAFT)

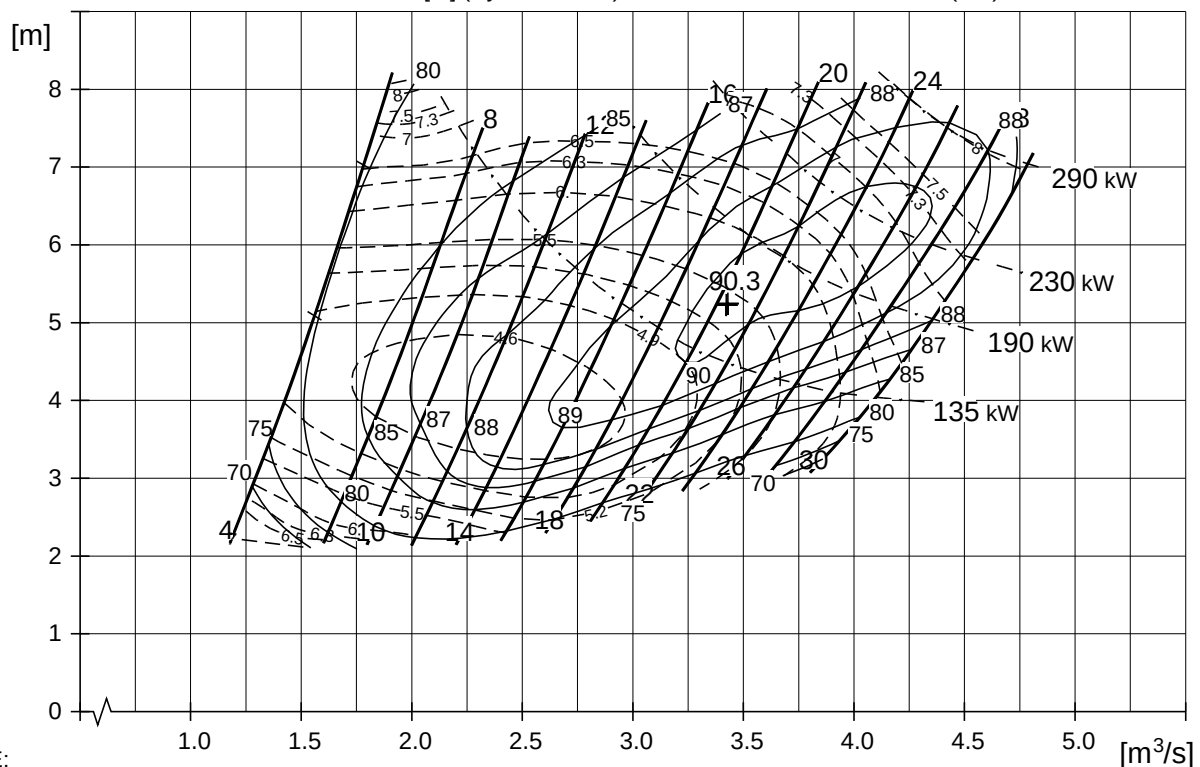
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

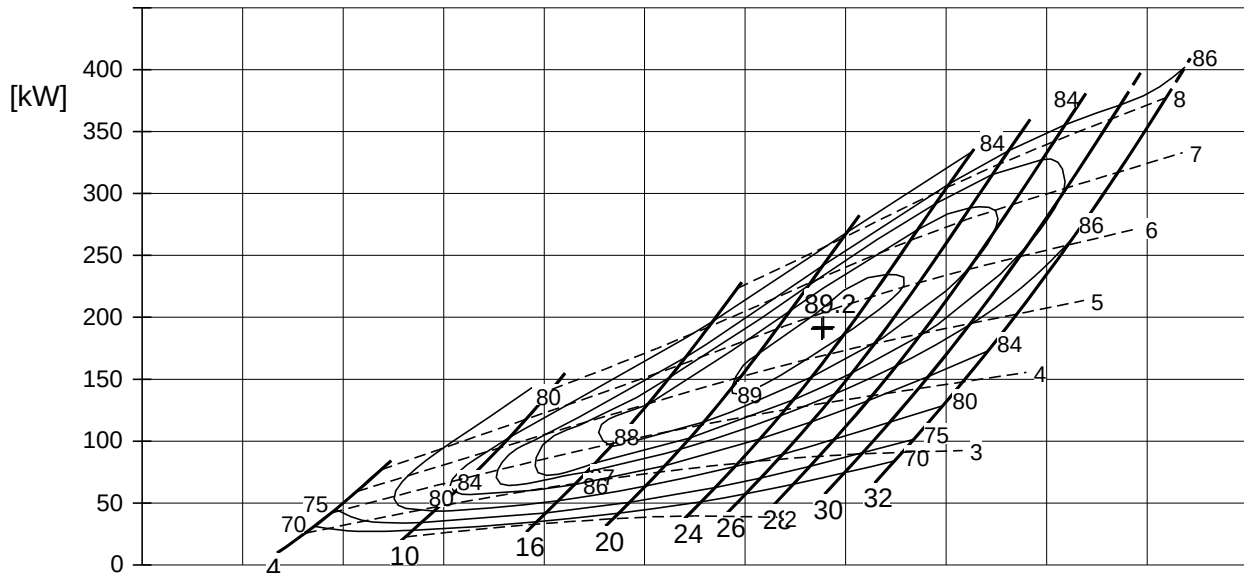
53- 336 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
336 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-4AA	4	135 kW	350-13	1: 4.500	95.5% - 94.4%
735	43-44-4AA	4	190	350-13	1: 4.500	96.4% - 95.6%
765	43-56-4AA	4	230	350-13	1: 4.500	96.8% - 96.1%
835	54-52-4AA	4	290	350-13	1: 4.500	97.2% - 96.7%
865	54-66-4AA	4	375	350-13	1: 4.500	97.5% - 97.1%

POWER (SHAFT)

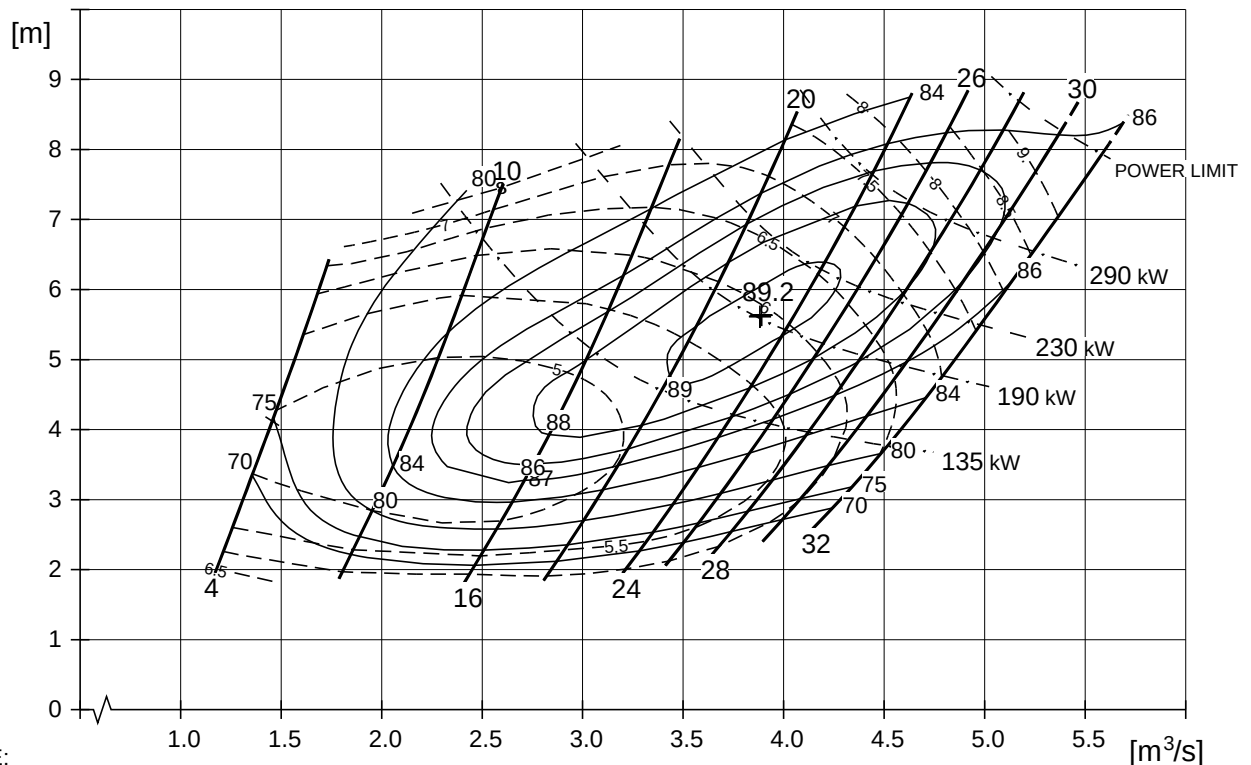
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

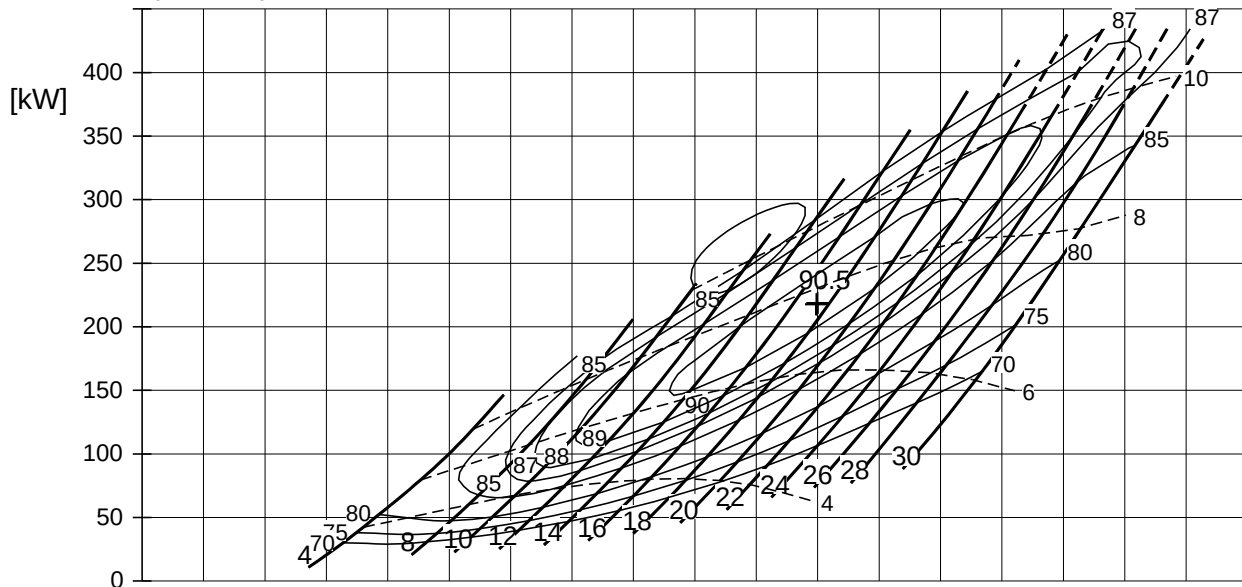
53- 374 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
374 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-4AA	4	190 kW	350-13	1: 4.034	96.2% - 95.3%
765	43-56-4AA	4	230	350-13	1: 4.034	96.6% - 95.9%
835	54-52-4AA	4	290	350-13	1: 4.034	97.0% - 96.5%
865	54-66-4AA	4	375	350-13	1: 4.034	97.4% - 97.0%

POWER (SHAFT)

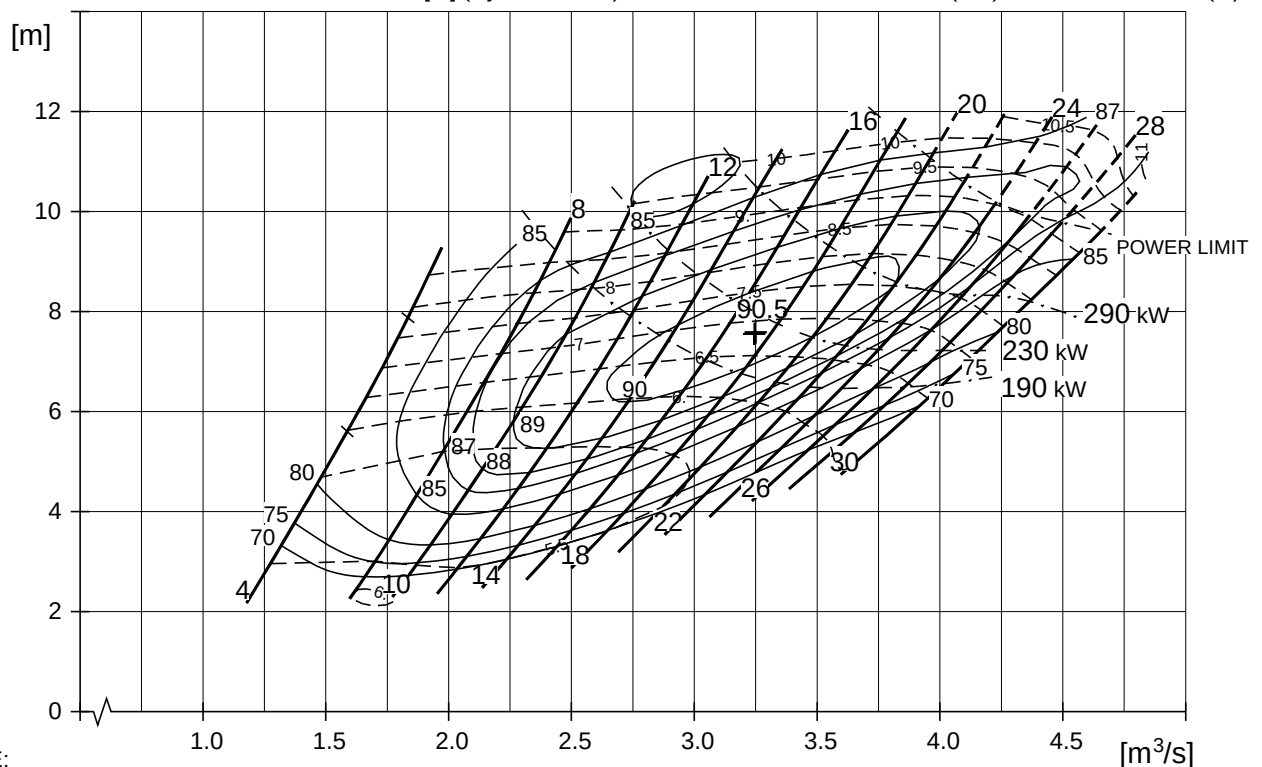
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

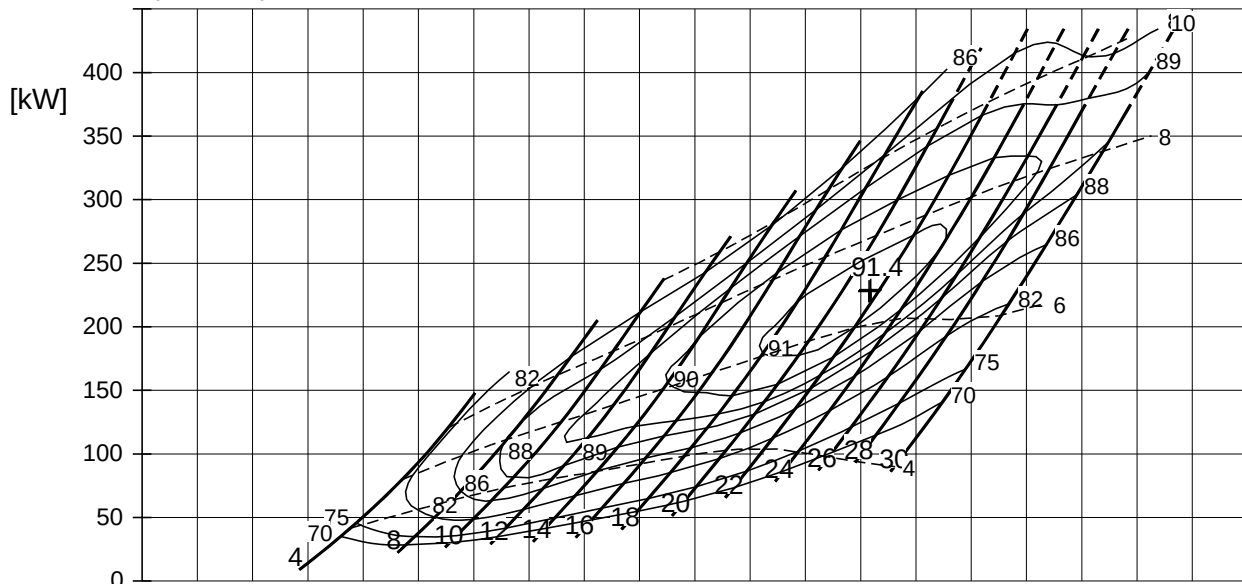
53- 374 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
374 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-4AA	4	190 kW	350-13	1: 4.034	96.2% - 95.3%
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835	54-52-4AA	4	290	350-13	1: 4.034	97.0% - 96.5%
865	54-66-4AA	4	375	350-13	1: 4.034	97.4% - 97.0%

POWER (SHAFT)

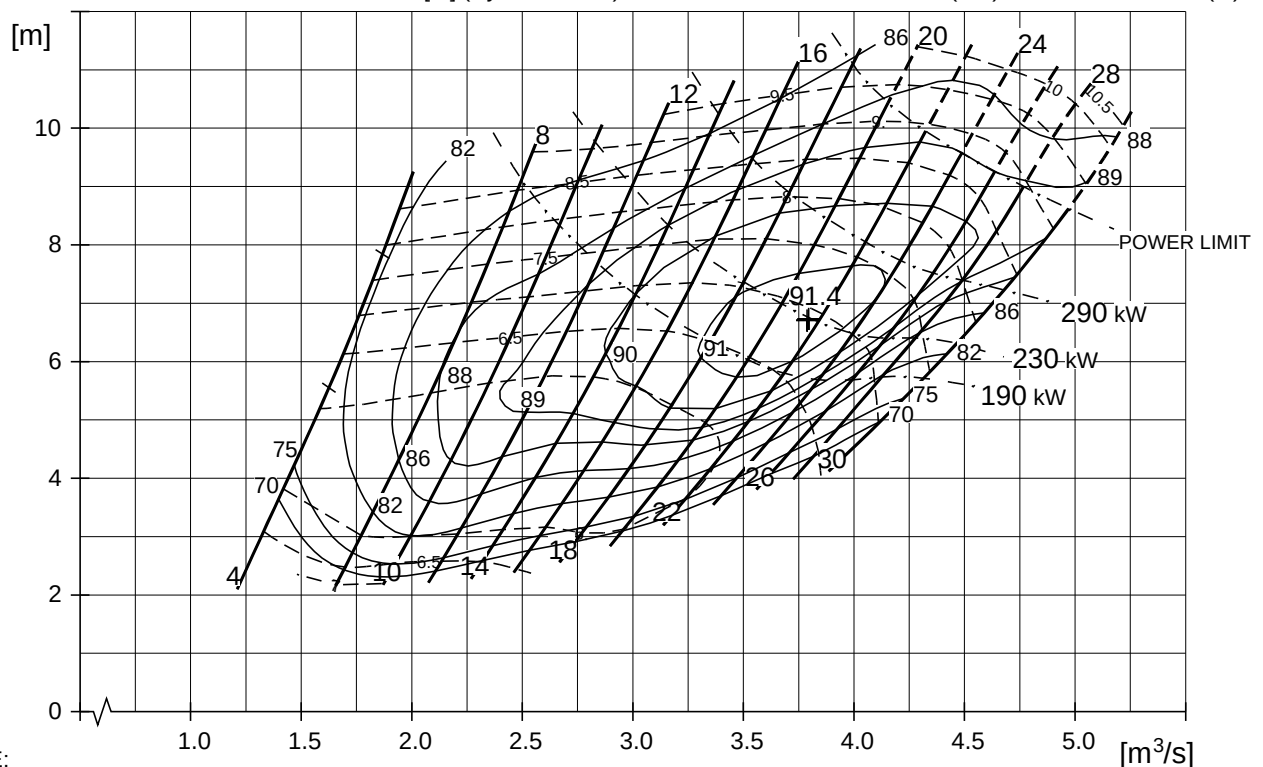
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

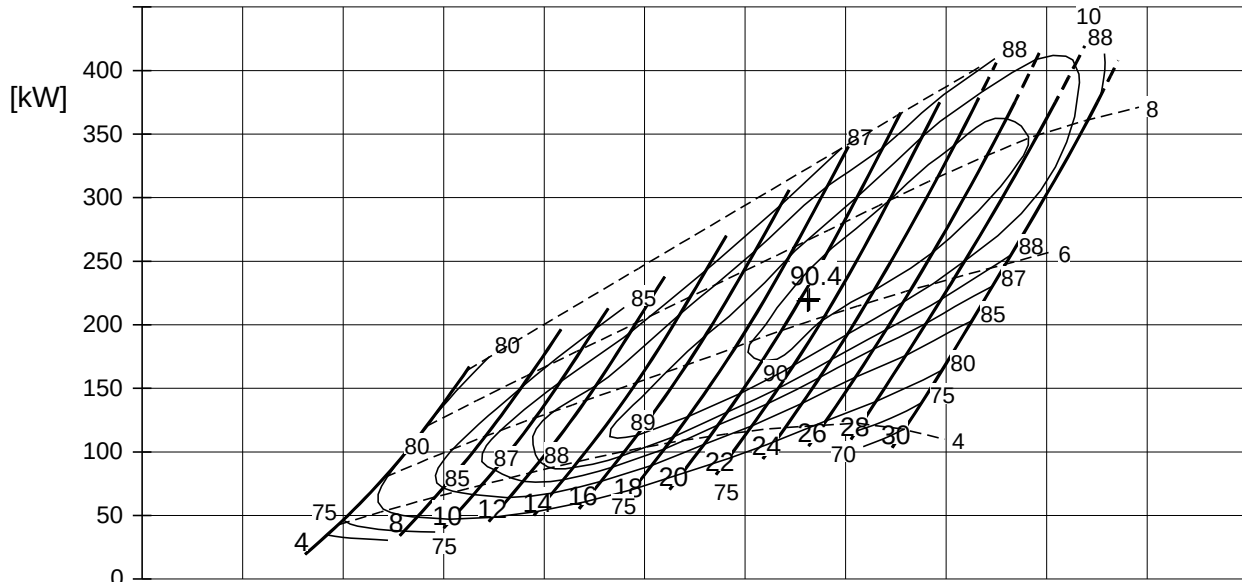
CURVE NO

53- 374 C4EDATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
374 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-4AA	4	190 kW	350-13	1: 4.034	96.2% - 95.3%
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835	54-52-4AA	4	290	350-13	1: 4.034	97.0% - 96.5%
865	54-66-4AA	4	375	350-13	1: 4.034	97.4% - 97.0%

POWER (SHAFT)

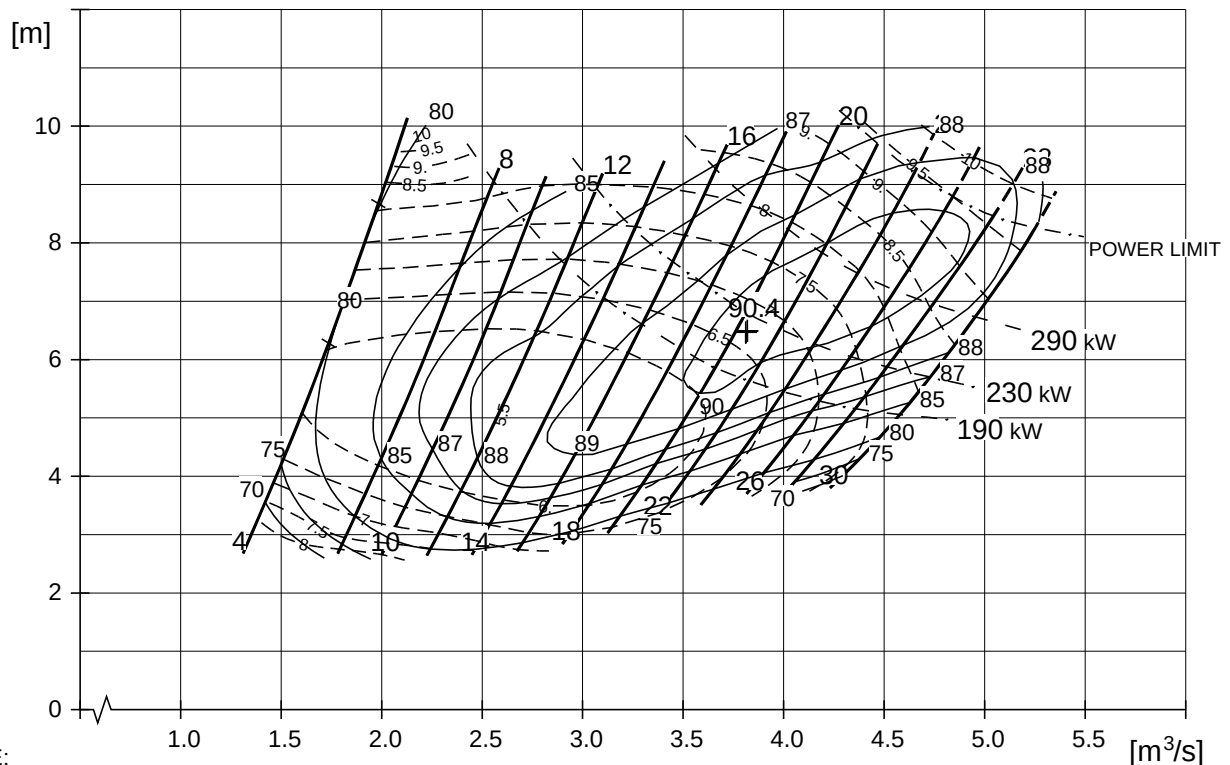
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

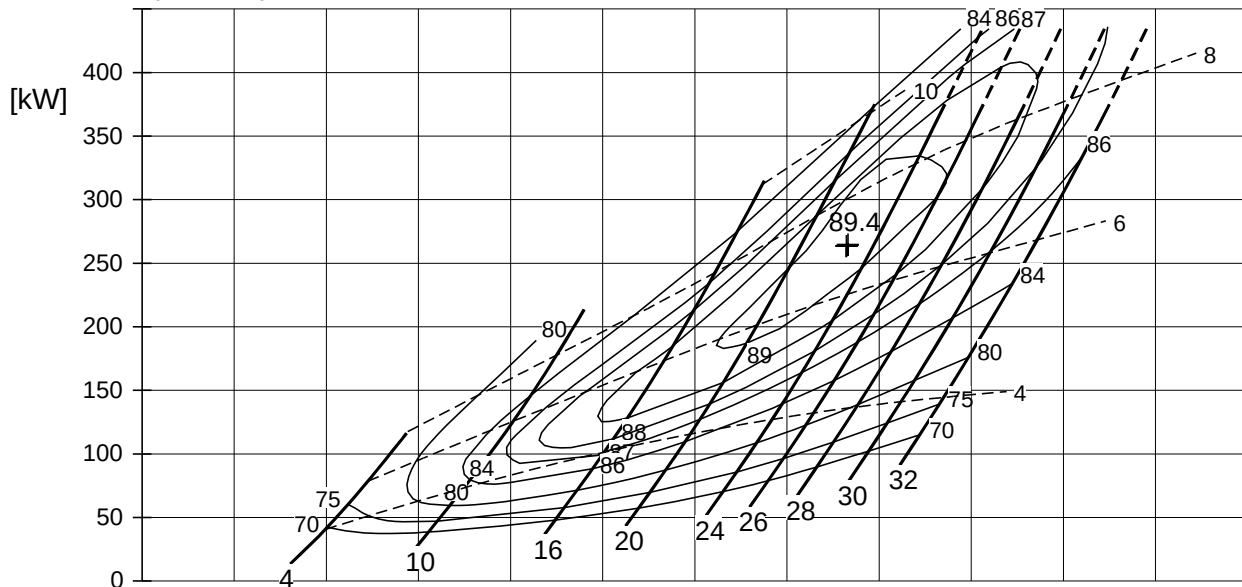
53- 374 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
374 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-4AA	4	190 kW	350-13	1: 4.034	96.2% - 95.3%
765	43-56-4AA	4	230	350-13	1: 4.034	96.6% - 95.9%
835	54-52-4AA	4	290	350-13	1: 4.034	97.0% - 96.5%
865	54-66-4AA	4	375	350-13	1: 4.034	97.4% - 97.0%

POWER (SHAFT)

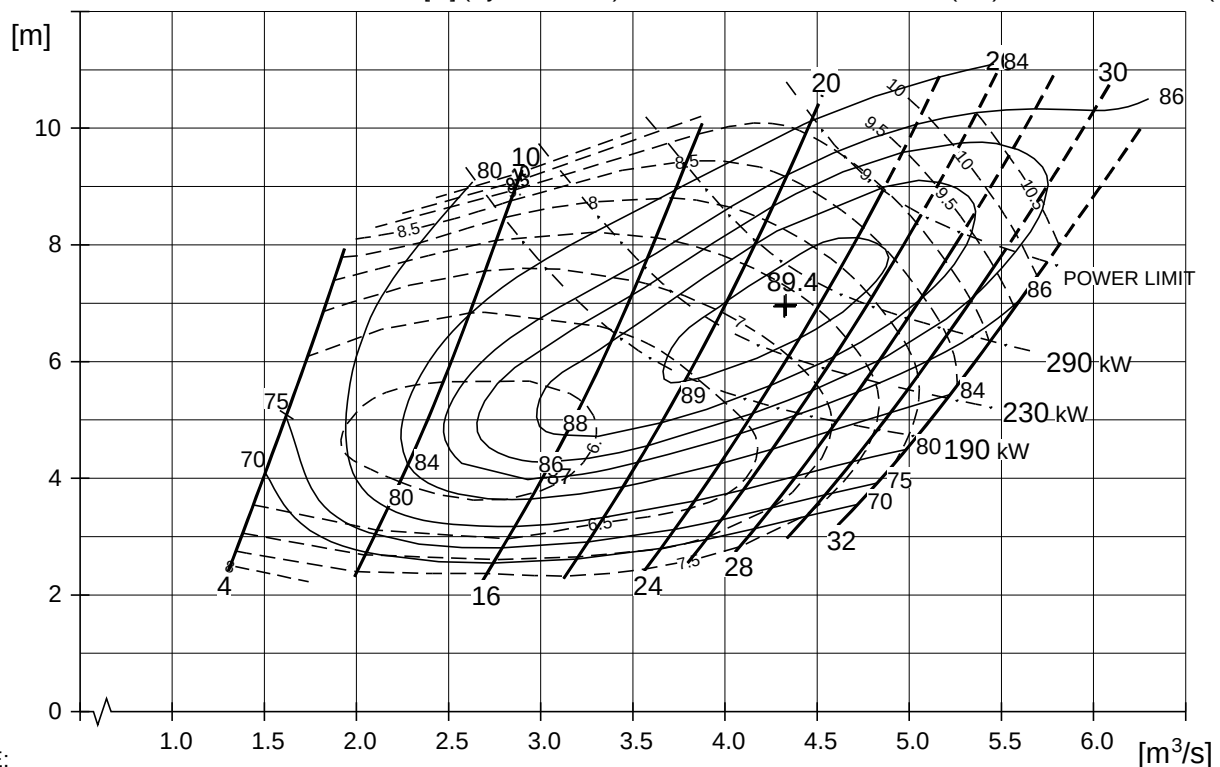
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

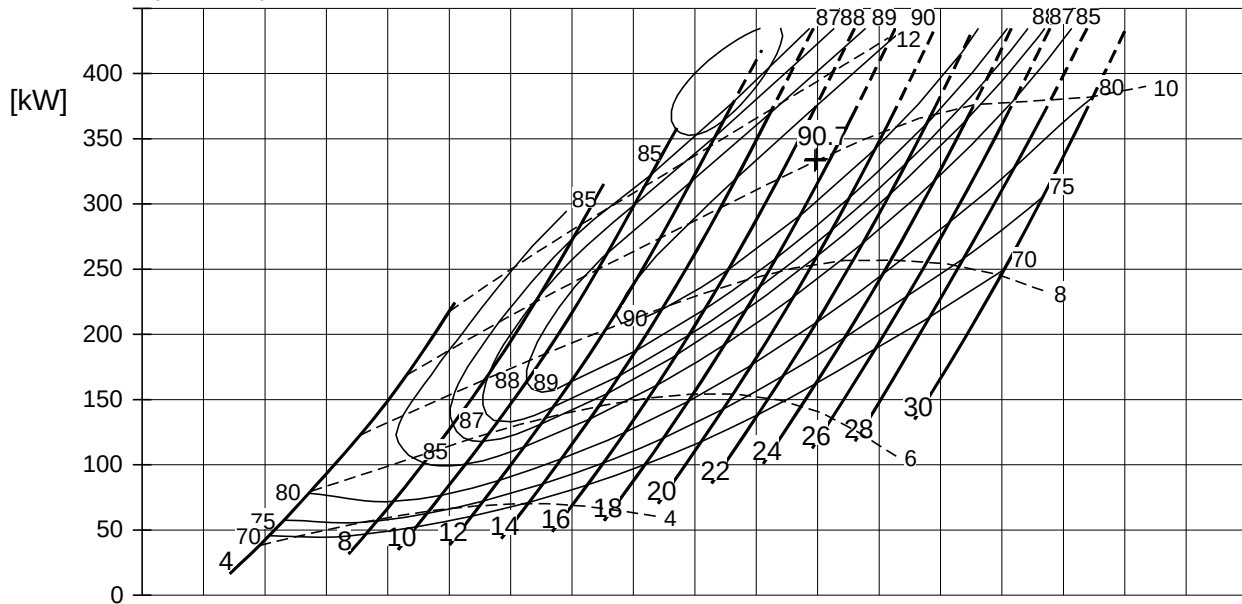
53- 431 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
431 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-4AA	4	230 kW	350-13	1: 3.500	97.2% - 96.7%
835	54-52-4AA	4	290	350-13	1: 3.500	96.8% - 96.2%
865	54-66-4AA	4	375	350-13	1: 3.500	97.2% - 96.7%

POWER (SHAFT)

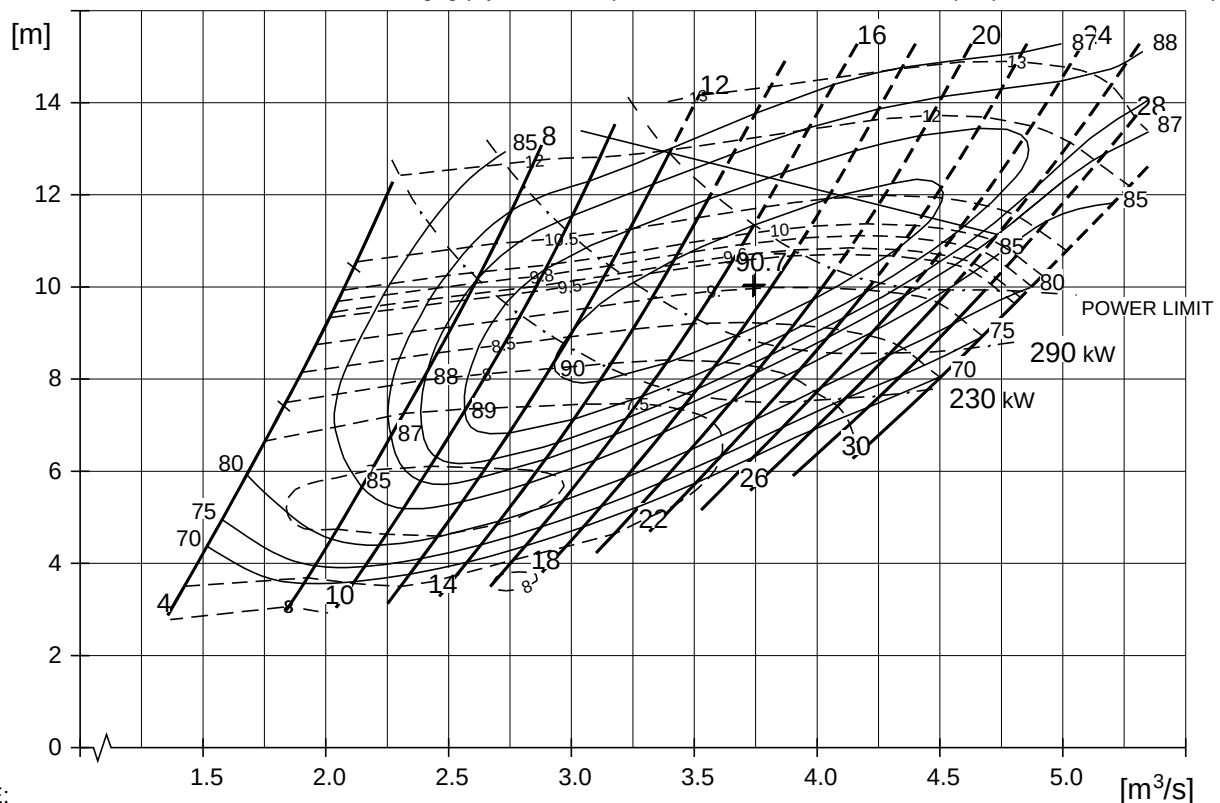
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

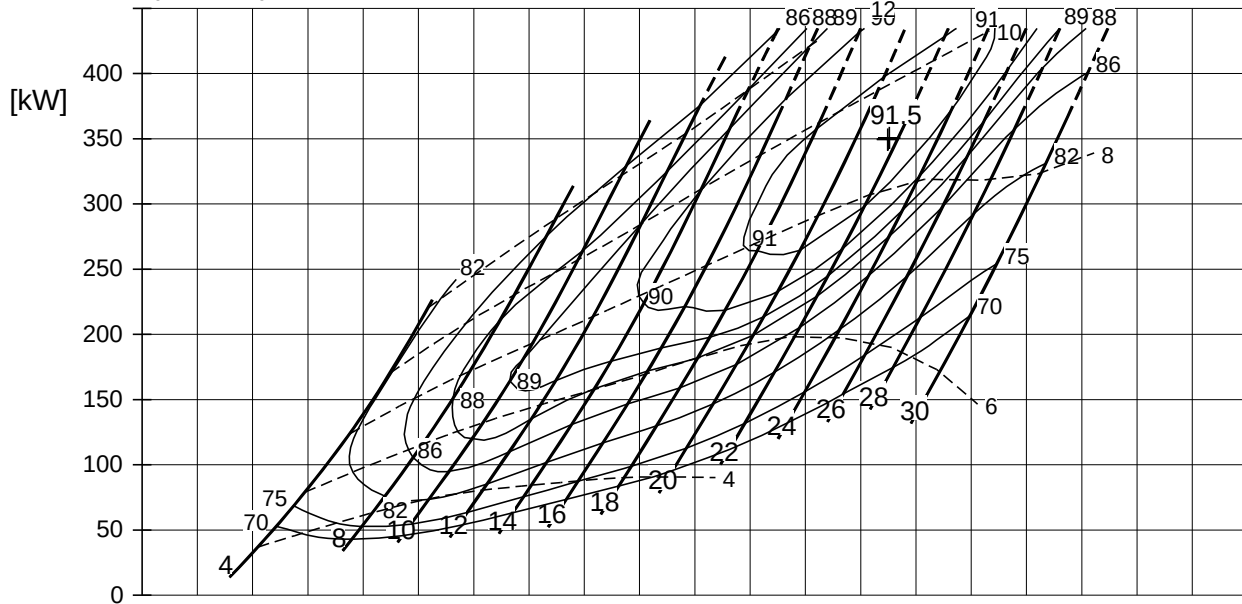
53- 431 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
431 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-4AA	4	230 kW	350-13	1: 3.500	97.2% - 96.7%
835	54-52-4AA	4	290	350-13	1: 3.500	96.8% - 96.2%
865	54-66-4AA	4	375	350-13	1: 3.500	97.2% - 96.7%

POWER (SHAFT)

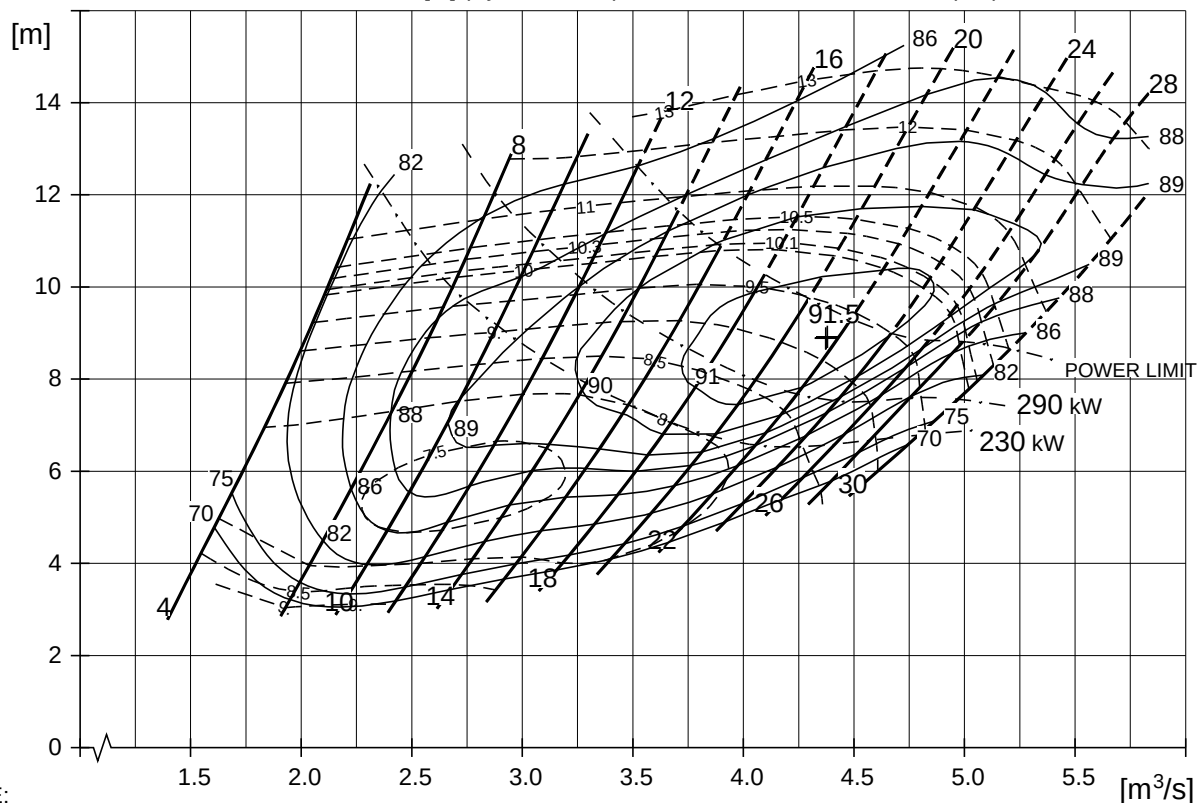
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

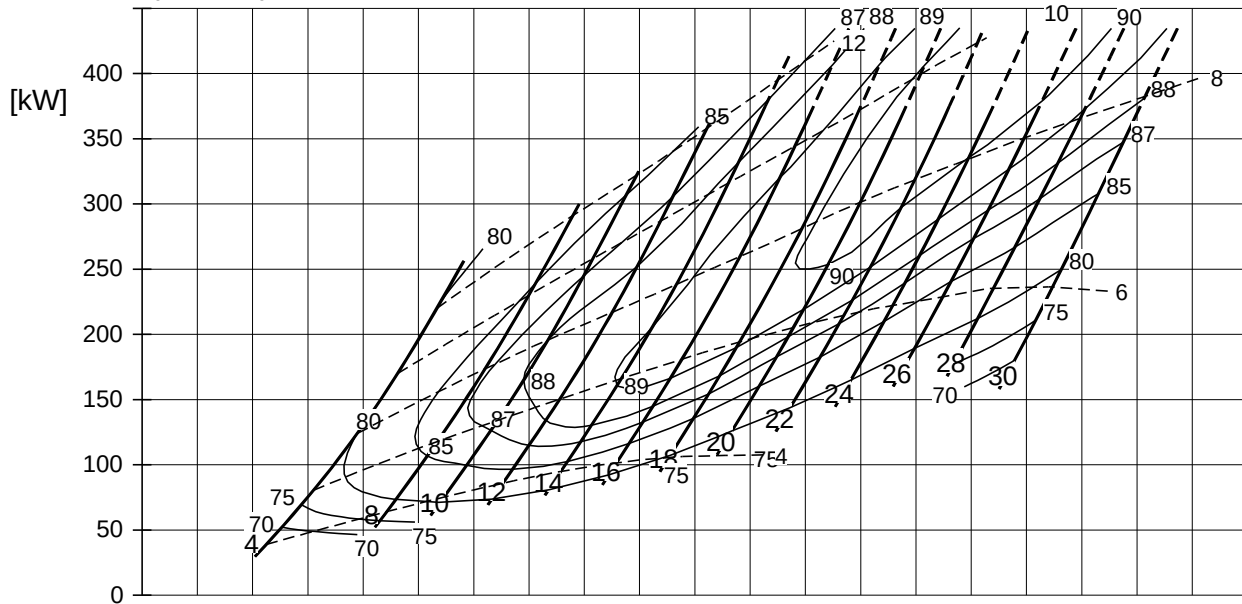
53- 431 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
431 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-4AA	4	230 kW	350-13	1: 3.500	97.2% - 96.7%
835	54-52-4AA	4	290	350-13	1: 3.500	96.8% - 96.2%
865	54-66-4AA	4	375	350-13	1: 3.500	97.2% - 96.7%

POWER (SHAFT)

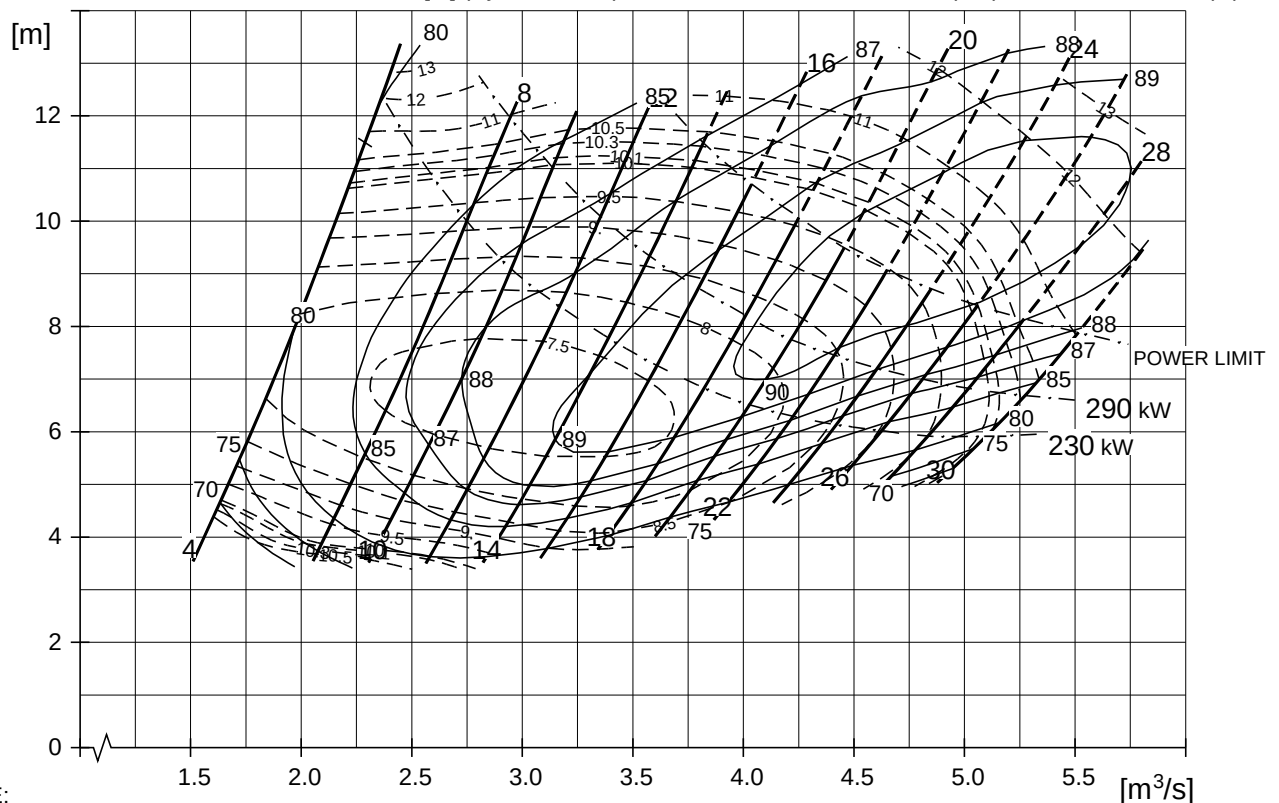
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

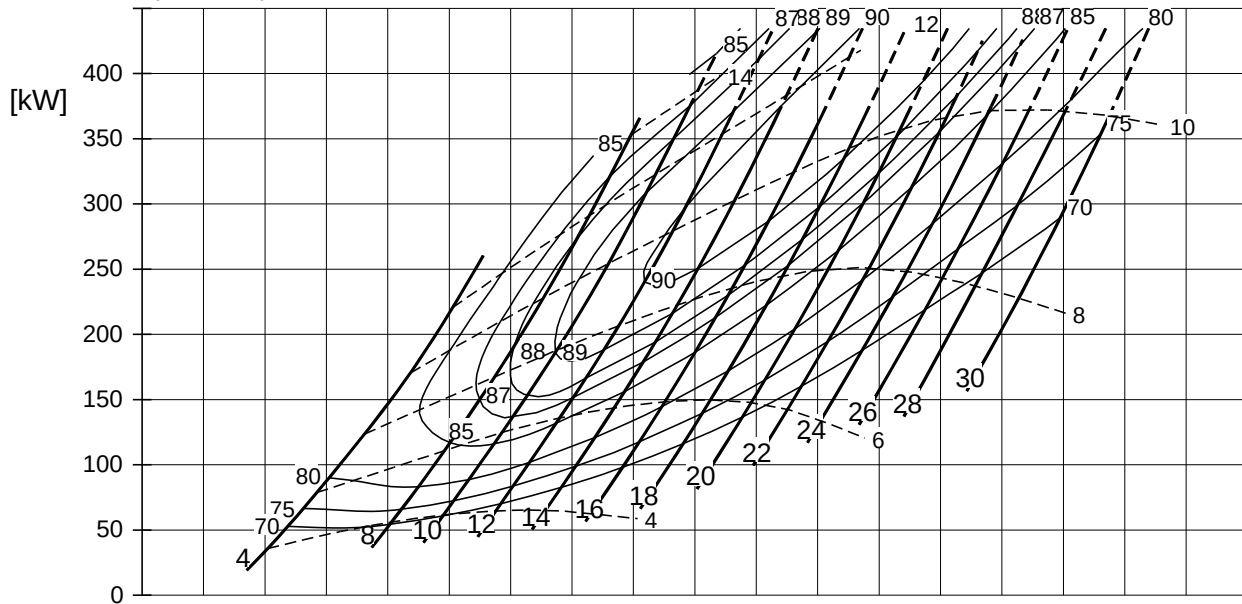
53- 453C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
453 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-4AA	4	230 kW	350-13	1: 3.333	97.1% - 96.6%
835	54-52-4AA	4	290	350-13	1: 3.333	97.5% - 97.0%
865	54-66-4AA	4	375	350-13	1: 3.333	97.8% - 97.4%

POWER (SHAFT)

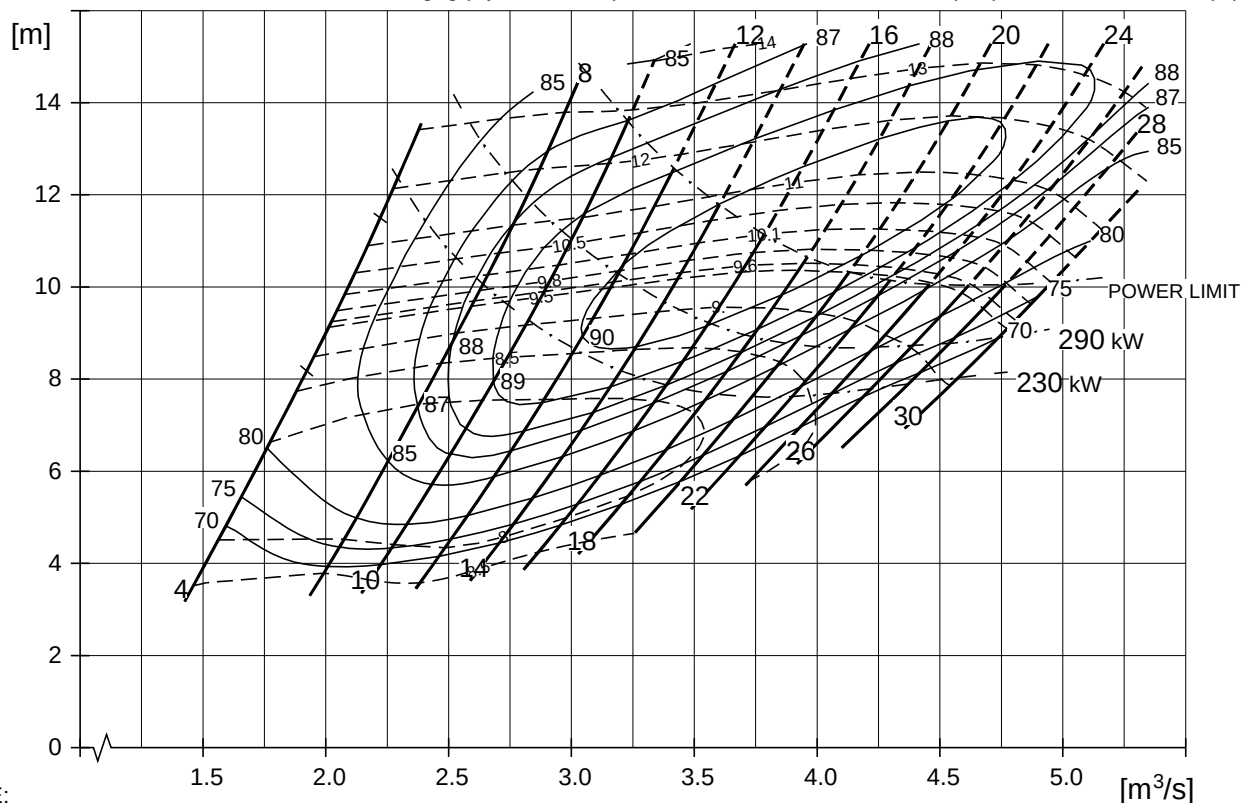
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

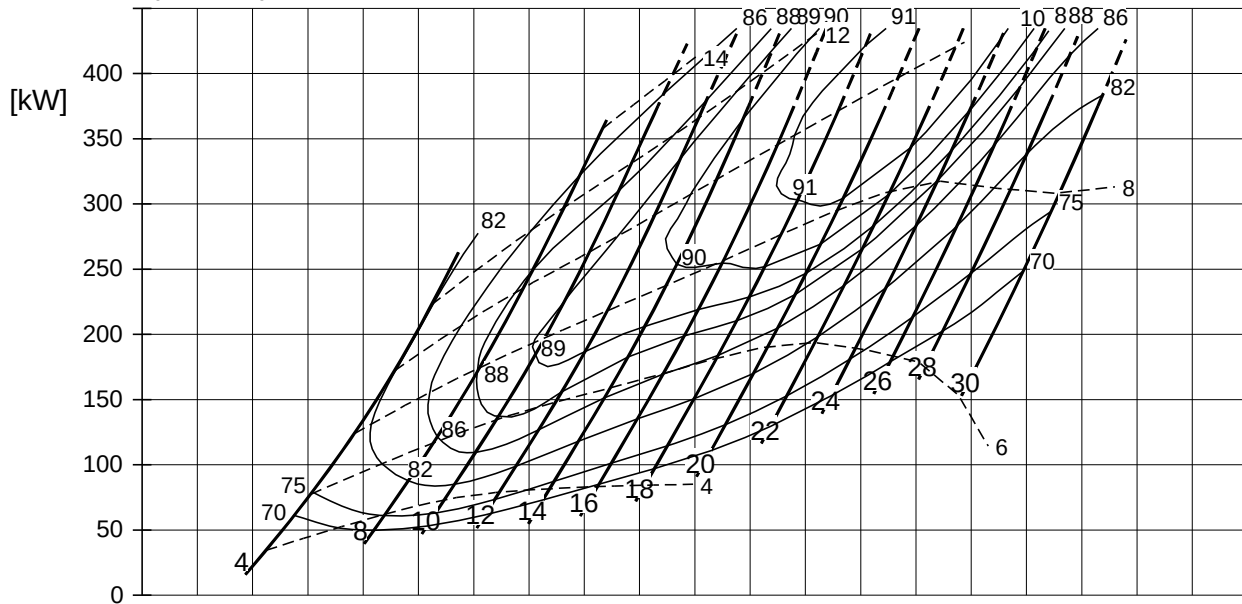
53- 453C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
453 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-4AA	4	230 kW	350-13	1: 3.333	97.1% - 96.6%
835	54-52-4AA	4	290	350-13	1: 3.333	97.5% - 97.0%
865	54-66-4AA	4	375	350-13	1: 3.333	97.8% - 97.4%

POWER (SHAFT)

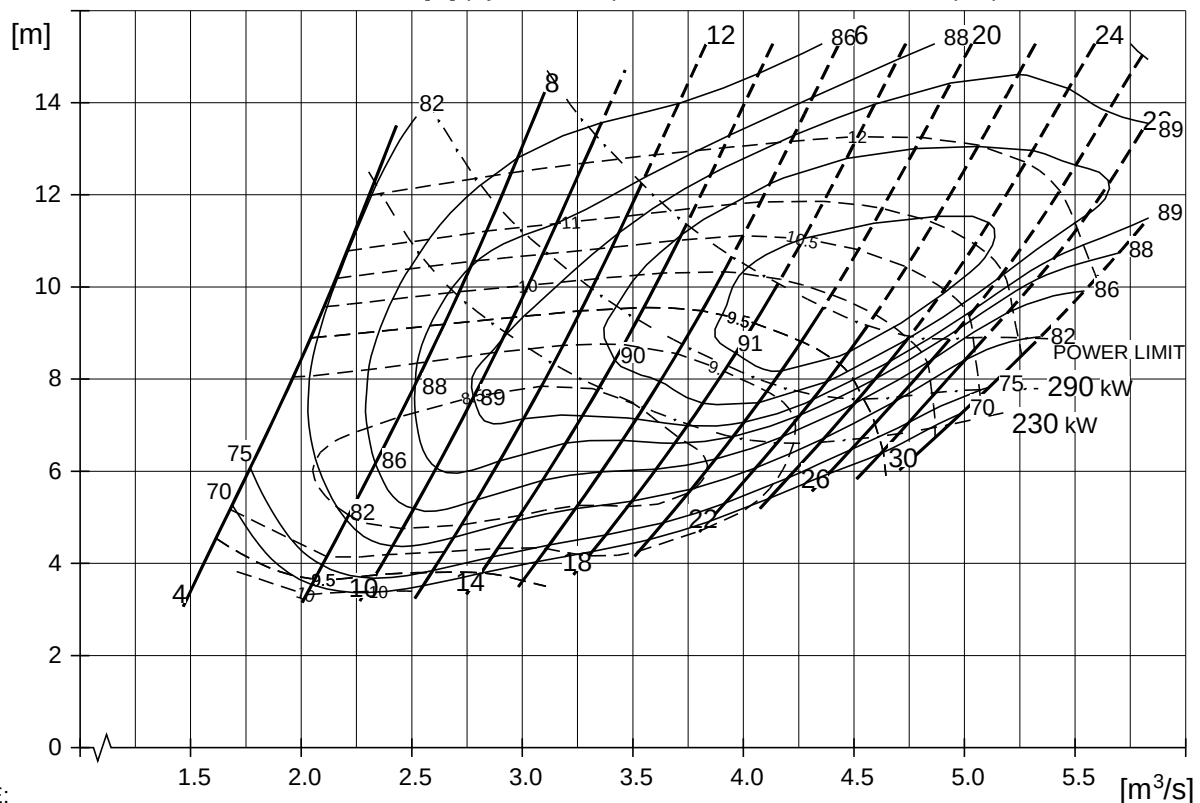
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

53- 453C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
453 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
765GENERATOR
43-56-4AAPOLES
4GEN. POWER
230 kWGEAR TYPE
350-13GEAR RATIO
1: 3.333GEAR EFFICIENCY (Load:1/1-3/4)
97.1% - 96.6%

835

54-52-4AA

4

290

350-13

1: 3.333

97.5% - 97.0%

865

54-66-4AA

4

375

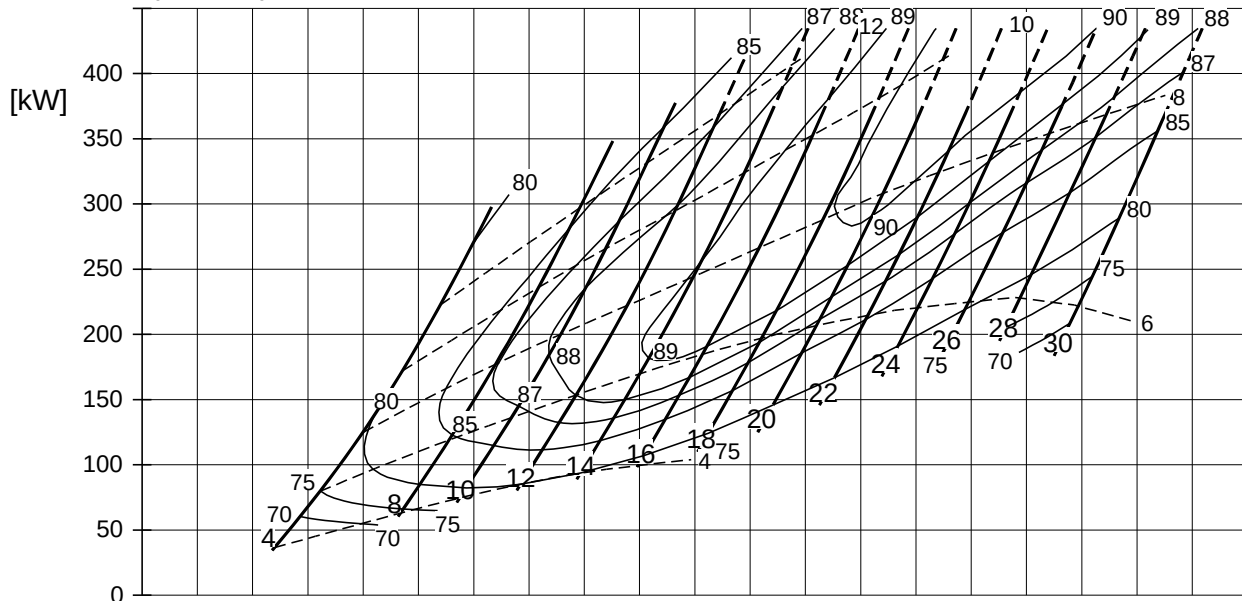
350-13

1: 3.333

97.8% - 97.4%

POWER (SHAFT)

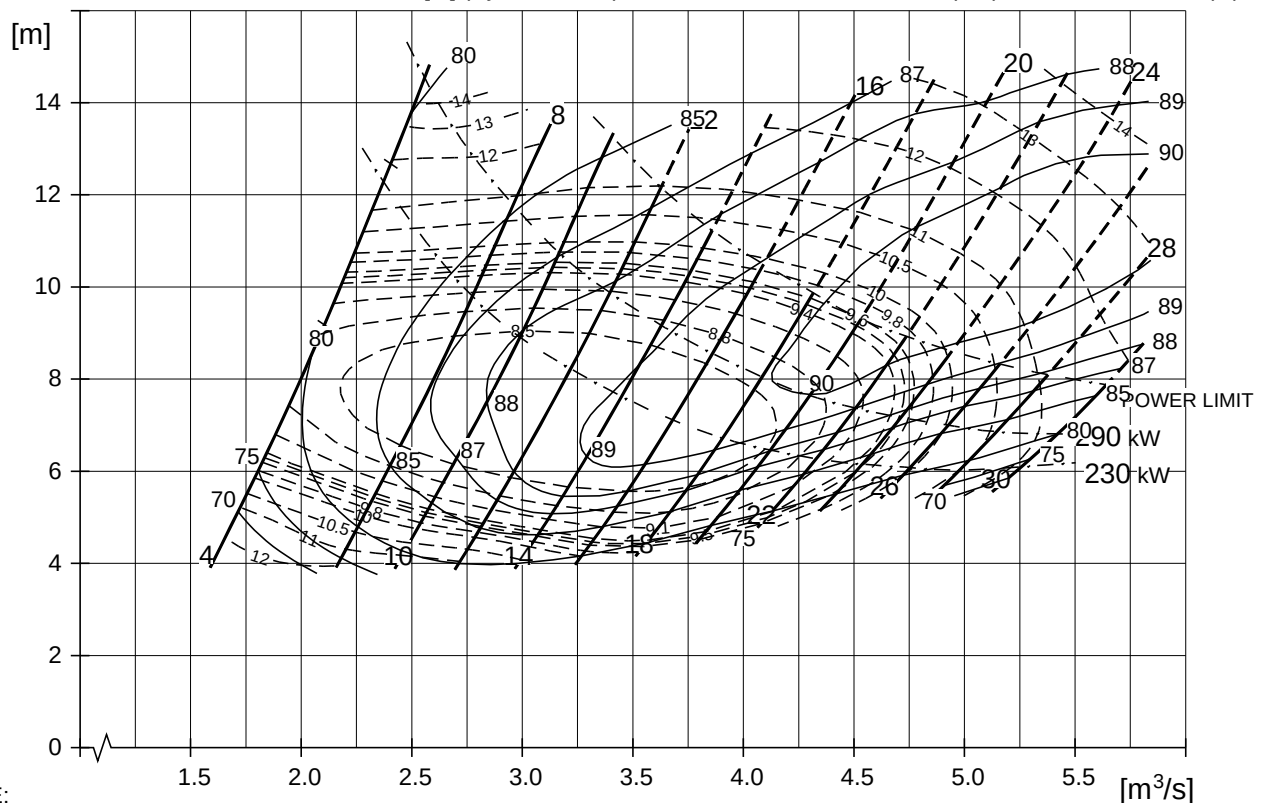
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

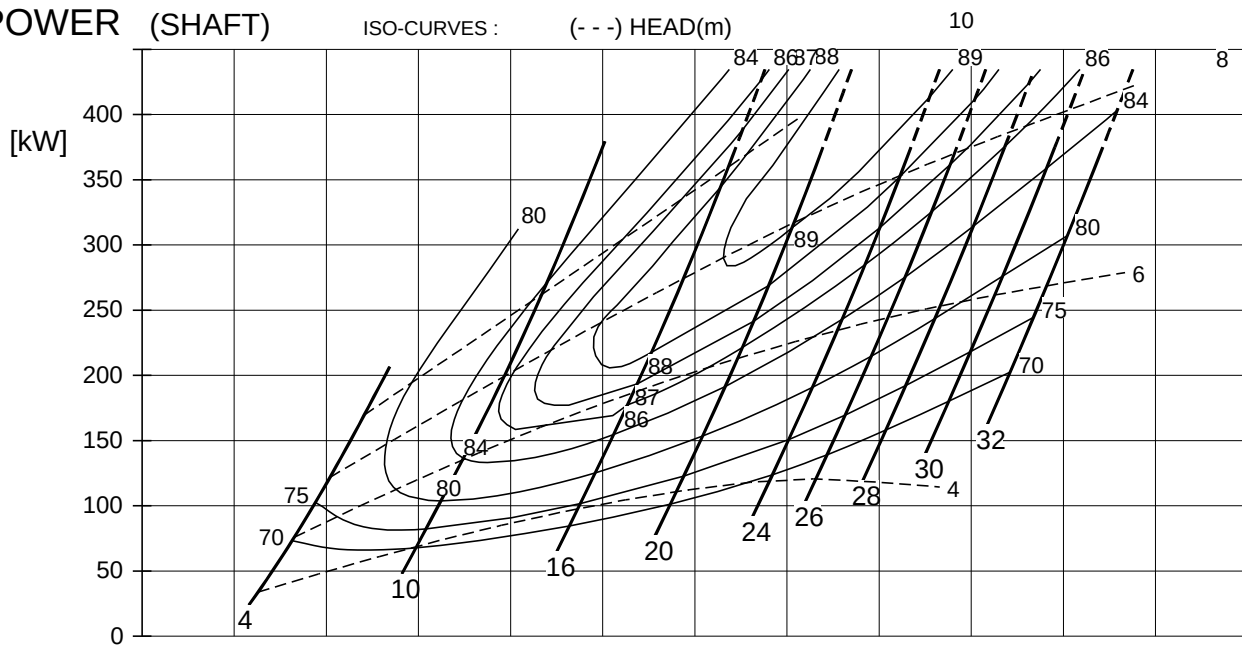
EL 7600

CURVE NO

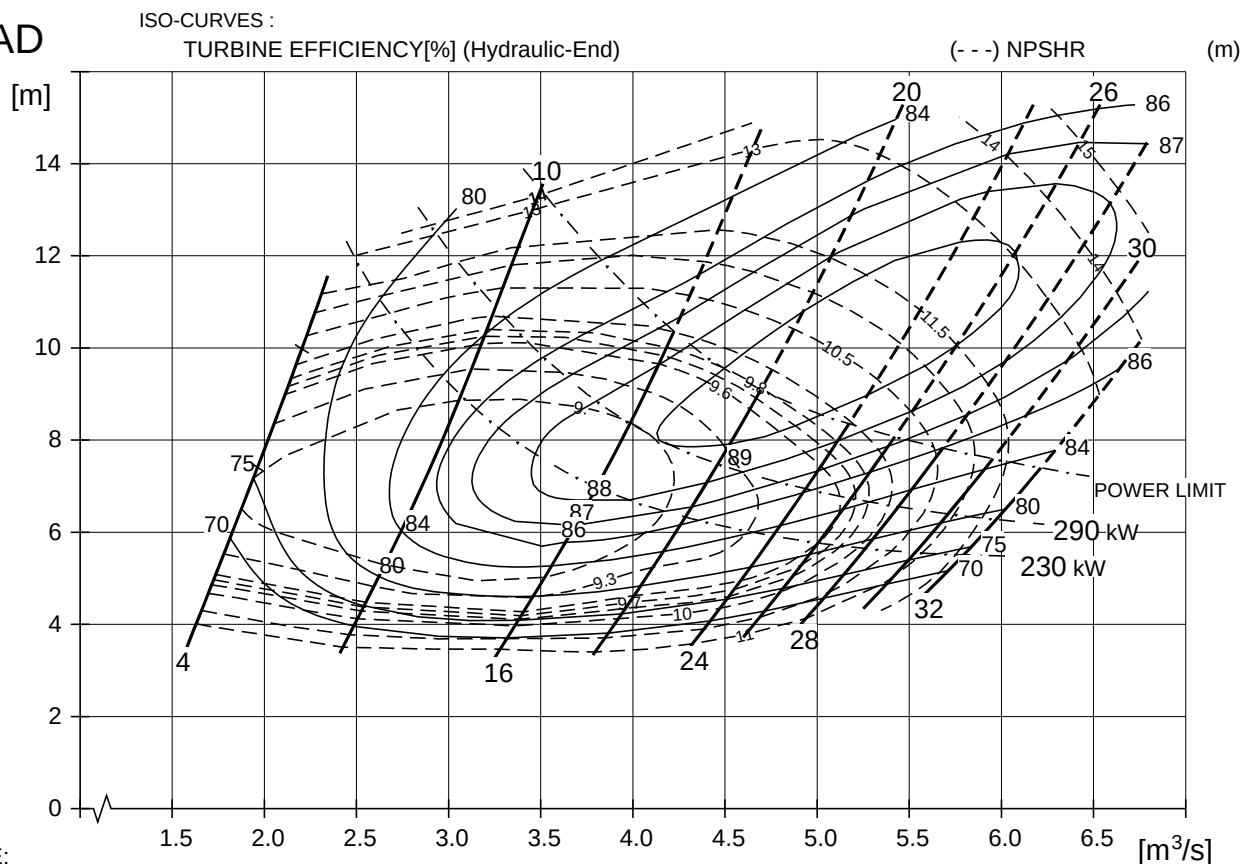
53- 453C4EDATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
453 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **32** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-4AA	4	230 kW	350-13	1: 3.333	97.1% - 96.6%
835	54-52-4AA	4	290	350-13	1: 3.333	97.5% - 97.0%
865	54-66-4AA	4	375	350-13	1: 3.333	97.8% - 97.4%

POWER (SHAFT)



HEAD



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

53- 498 C4E

DATE
2016-02-15

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
498 RPM

IMPELLER/HUB DIAMETER
1000 / 480 mm

GUIDE VANE(S)
50 deg

NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT
865

GENERATOR
54-66-4AA

POLES
4

GEN. POWER
375 kW

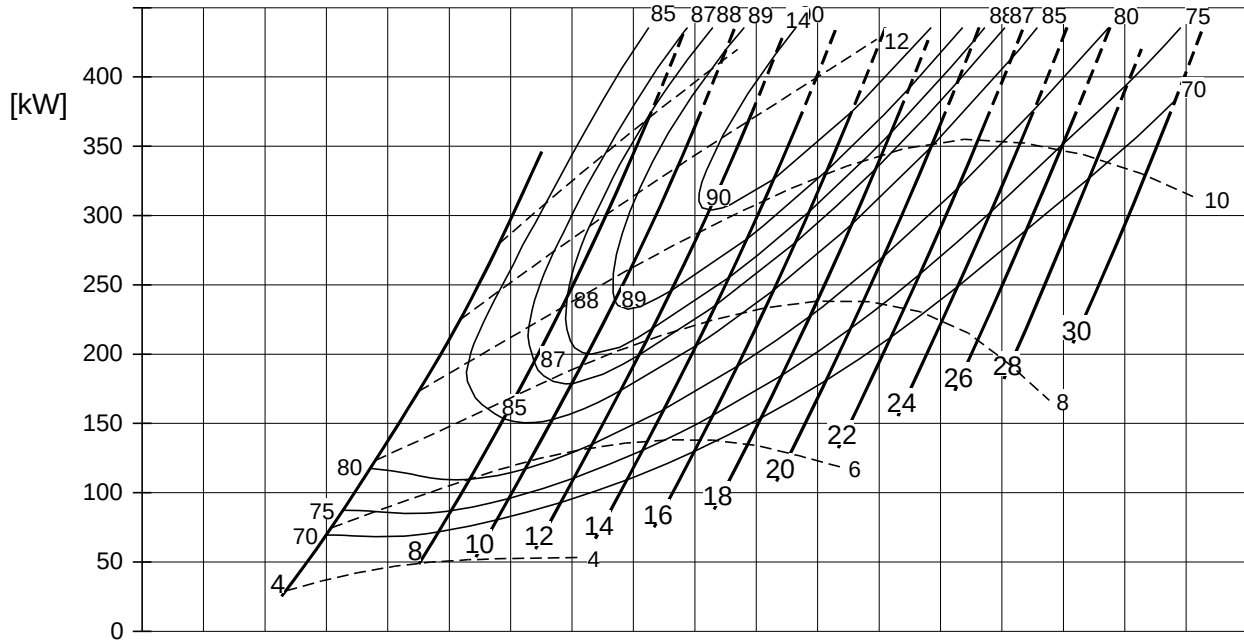
GEAR TYPE
350-13

GEAR RATIO
1: 3.000

GEAR EFFICIENCY (Load:1/1-3/4)
97.0% - 96.5%

POWER (SHAFT)

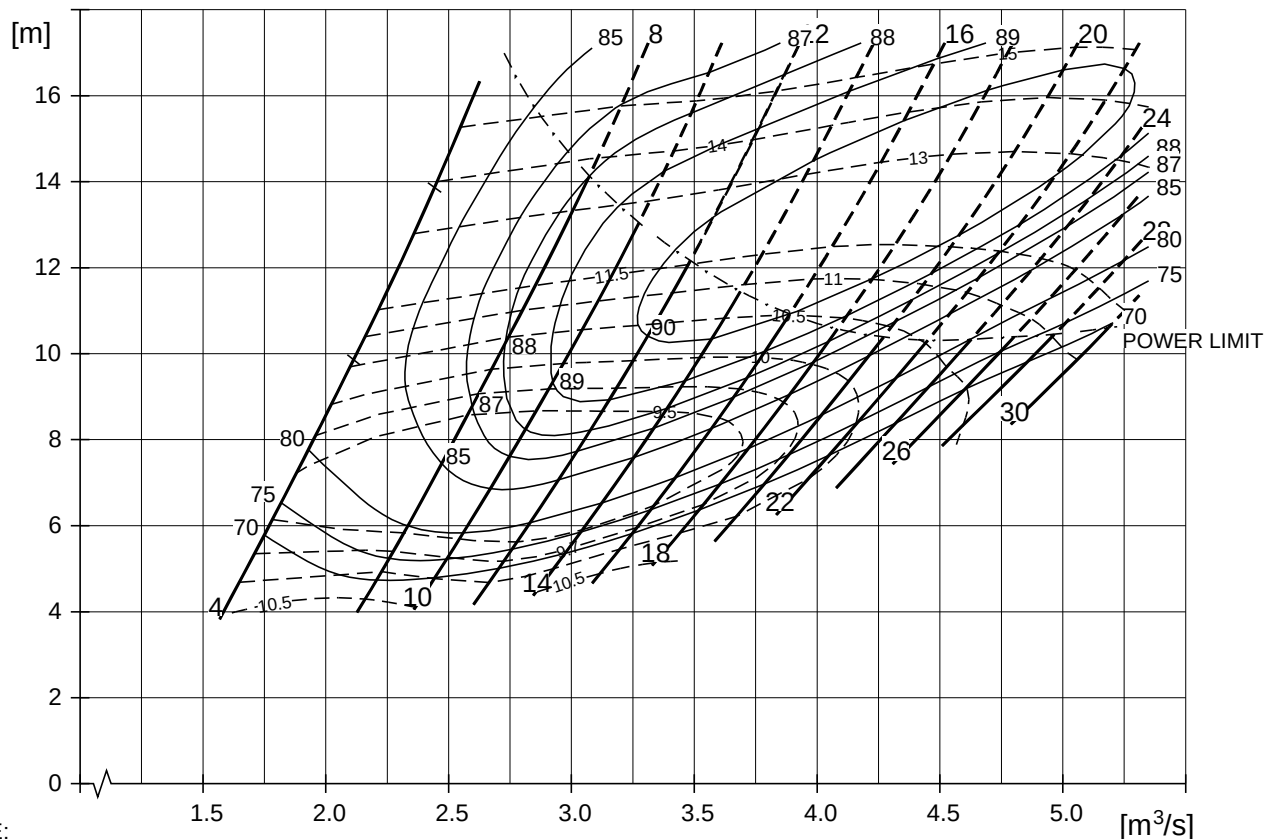
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

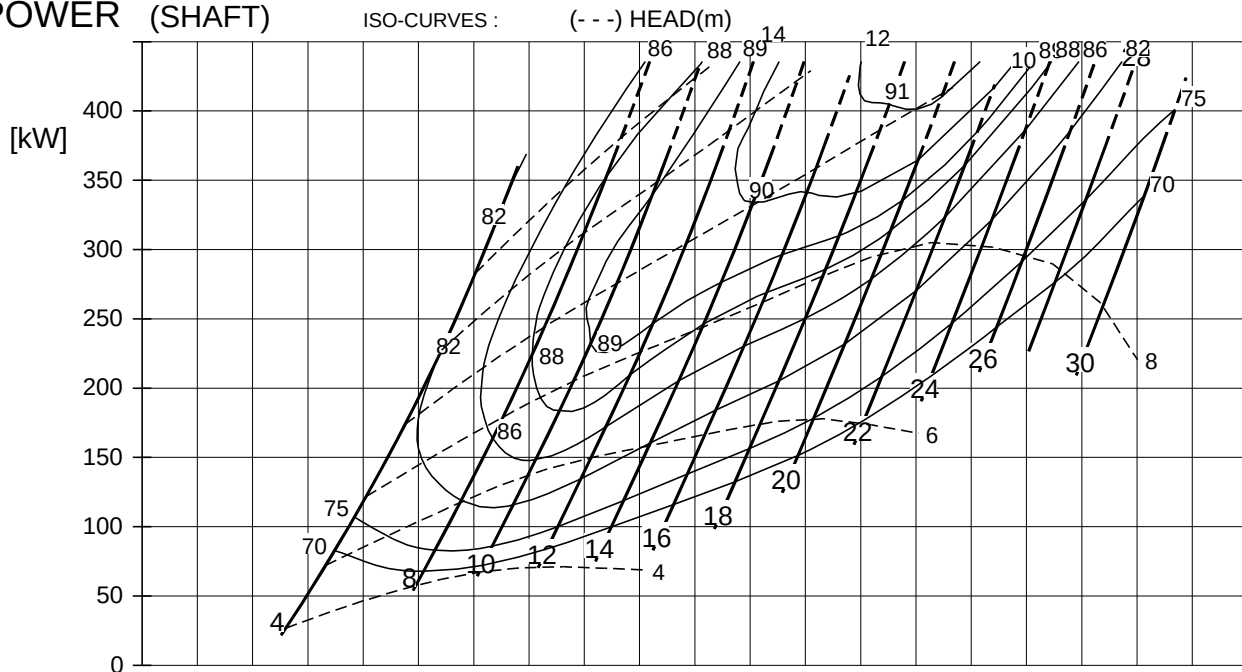
EL 7600

CURVE NO

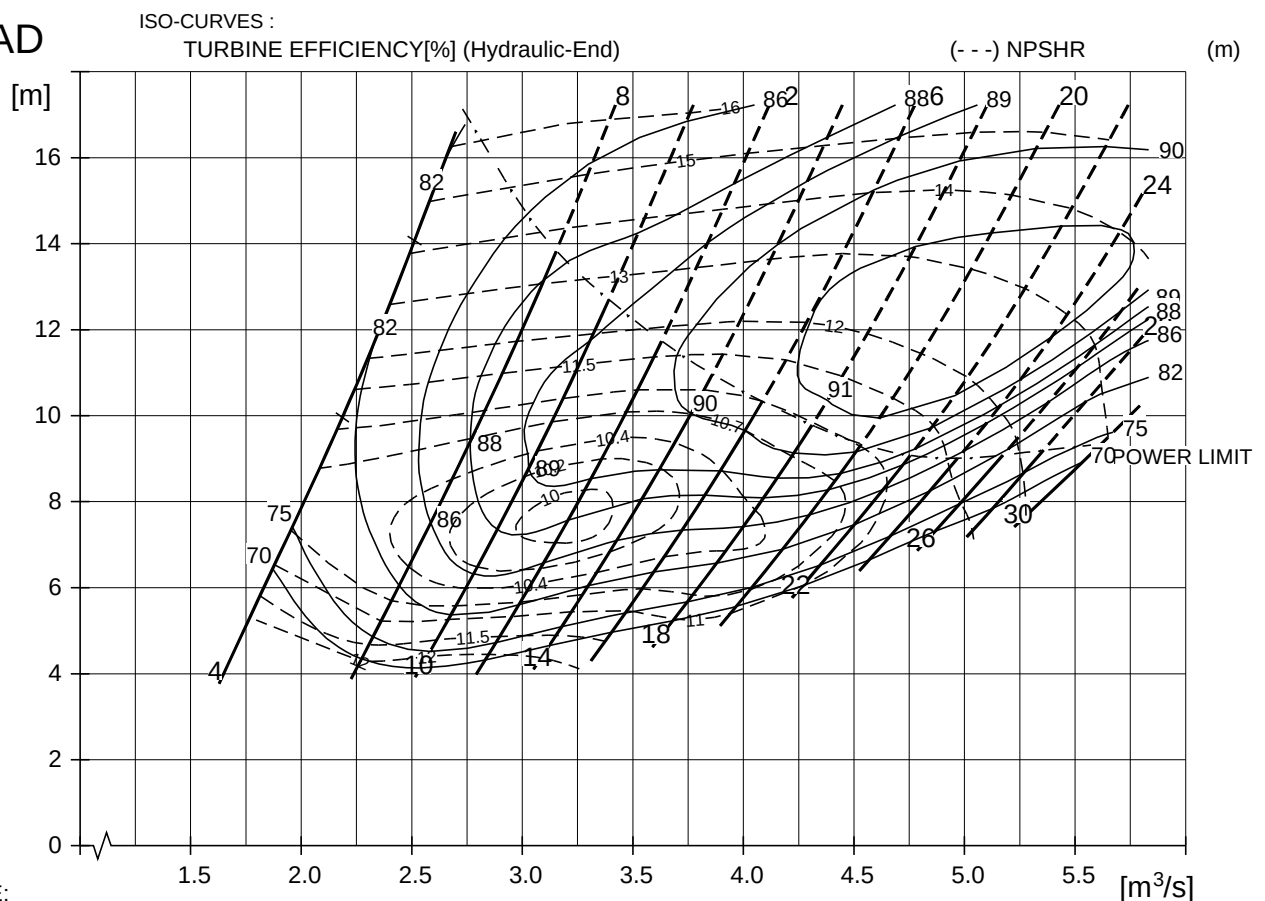
53- 503 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
503 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
865GENERATOR
54-66-4AAPOLES
4GEN. POWER
375 kWGEAR TYPE
350-13GEAR RATIO
1: 3.000GEAR EFFICIENCY (Load:1/1-3/4)
97.0% - 96.4%

POWER (SHAFT)



HEAD



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

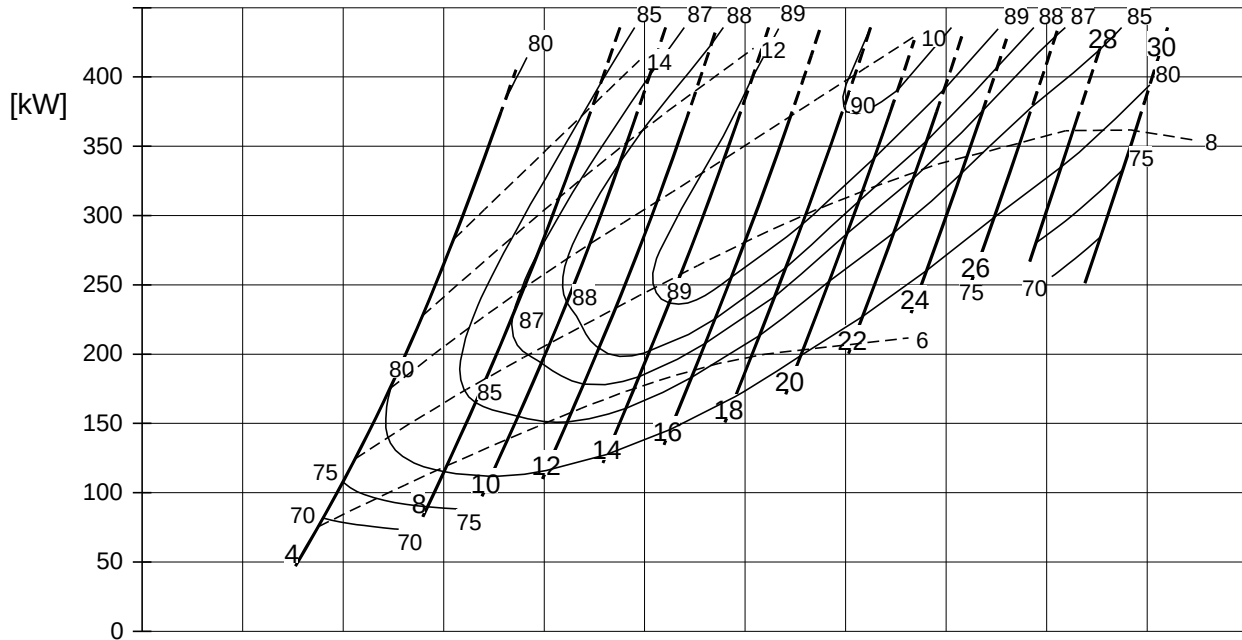
CURVE NO

53- 503 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
503 RPMIMPELLER/HUB DIAMETER
1000 / 480 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
865GENERATOR
54-66-4AAPOLES
4GEN. POWER
375 kWGEAR TYPE
350-13GEAR RATIO
1: 3.000GEAR EFFICIENCY (Load:1/1-3/4)
97.0% - 96.4%

POWER (SHAFT)

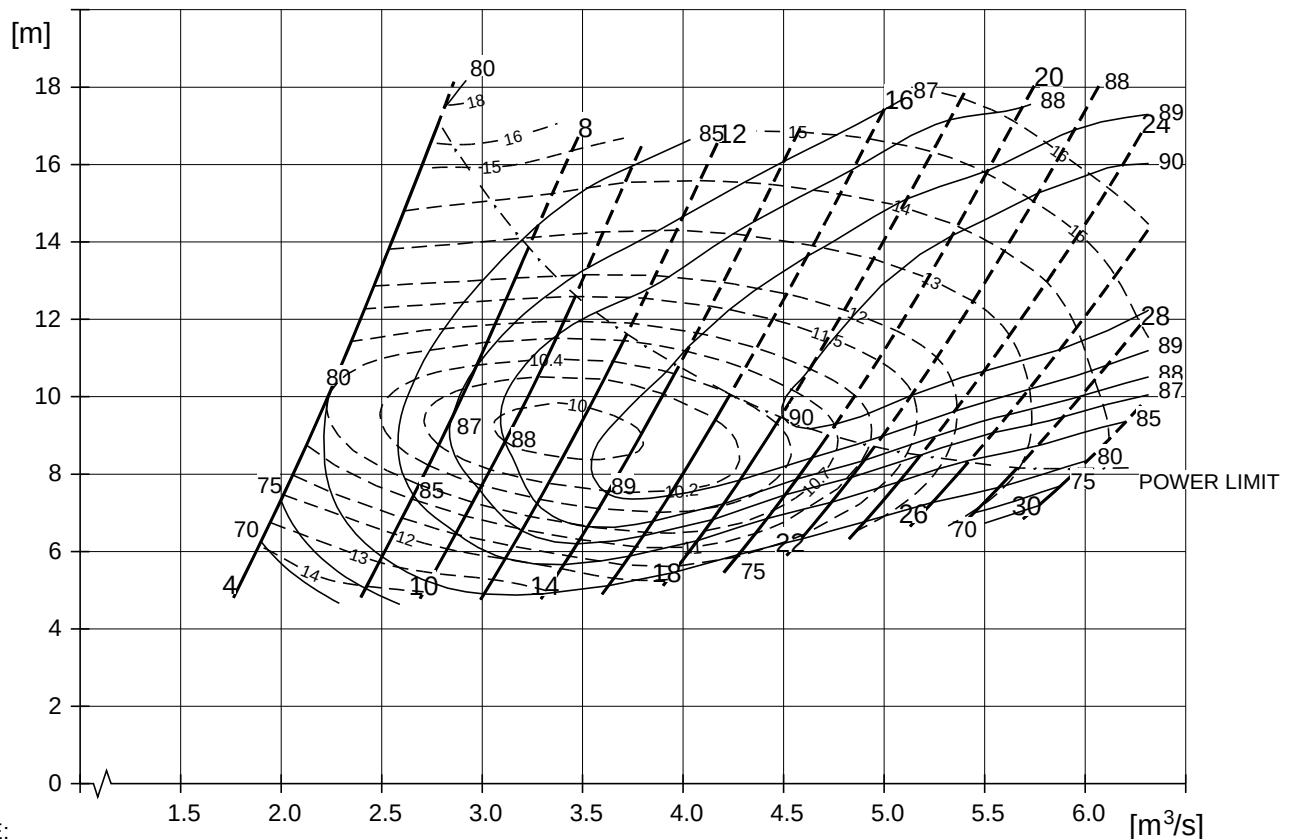
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7600

CURVE NO

53- 503 C4E

DATE
2016-02-15

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
503 RPM

IMPELLER/HUB DIAMETER
1000 / 480 mm

GUIDE VANE(S)
70 deg

NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT
865

GENERATOR
54-66-4AA

POLES
4

GEN. POWER
375 kW

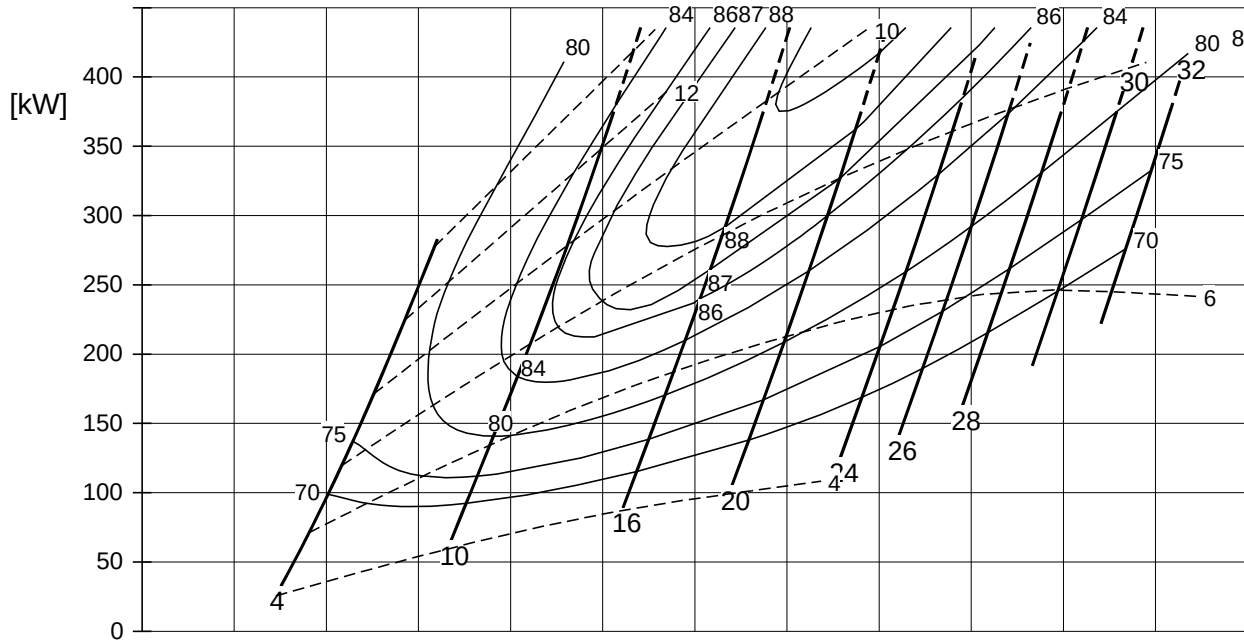
GEAR TYPE
350-13

GEAR RATIO
1: 3.000

GEAR EFFICIENCY (Load:1/1-3/4)
97.0% - 96.4%

POWER (SHAFT)

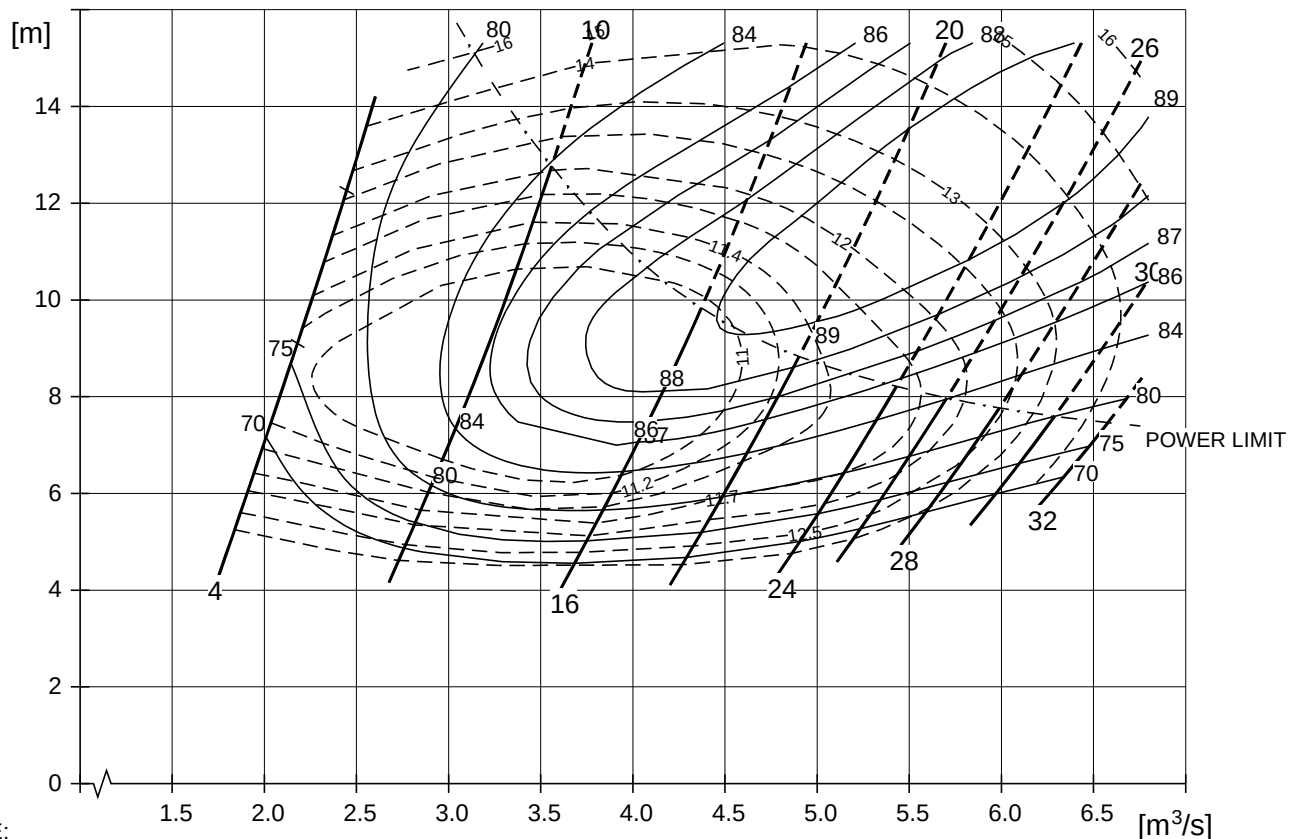
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES : TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

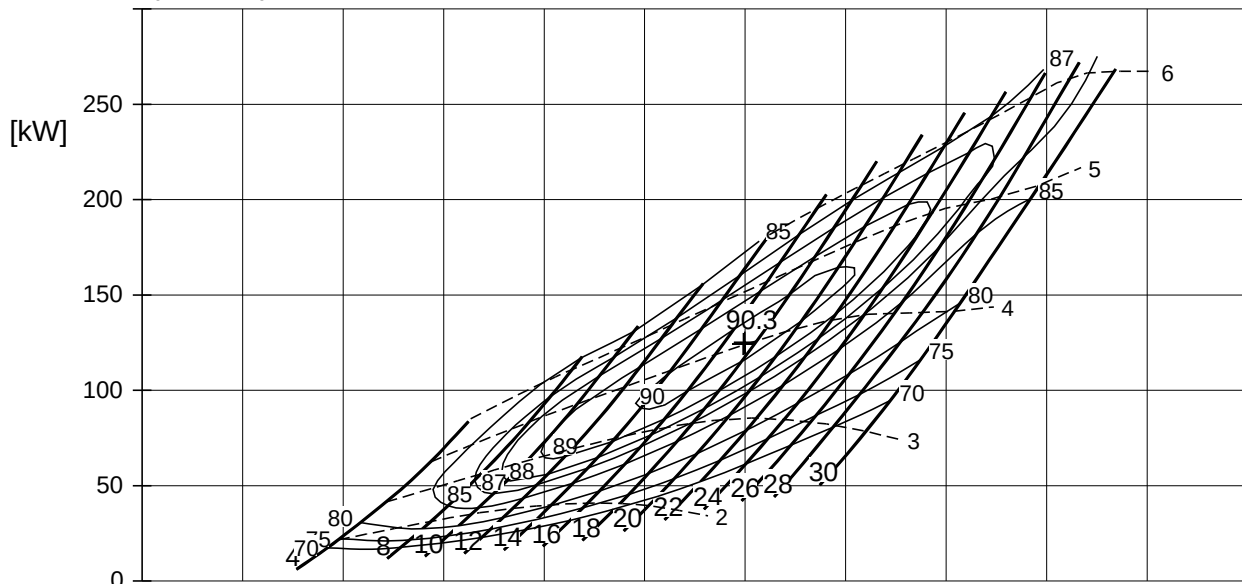
53- 227 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
227 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-12	1: 3.333	96.9% - 96.3%
905	66-56-8AA	8	350	350-12	1: 3.333	97.2% - 96.7%
905	66-56-8AA	8	390	360-12	1: 3.321	97.3% - 96.9%
935	66-66-8AA	8	430	360-22	1: 3.321	98.2% - 97.9%

POWER (SHAFT)

ISO-CURVES : (- - -) HEAD(m)



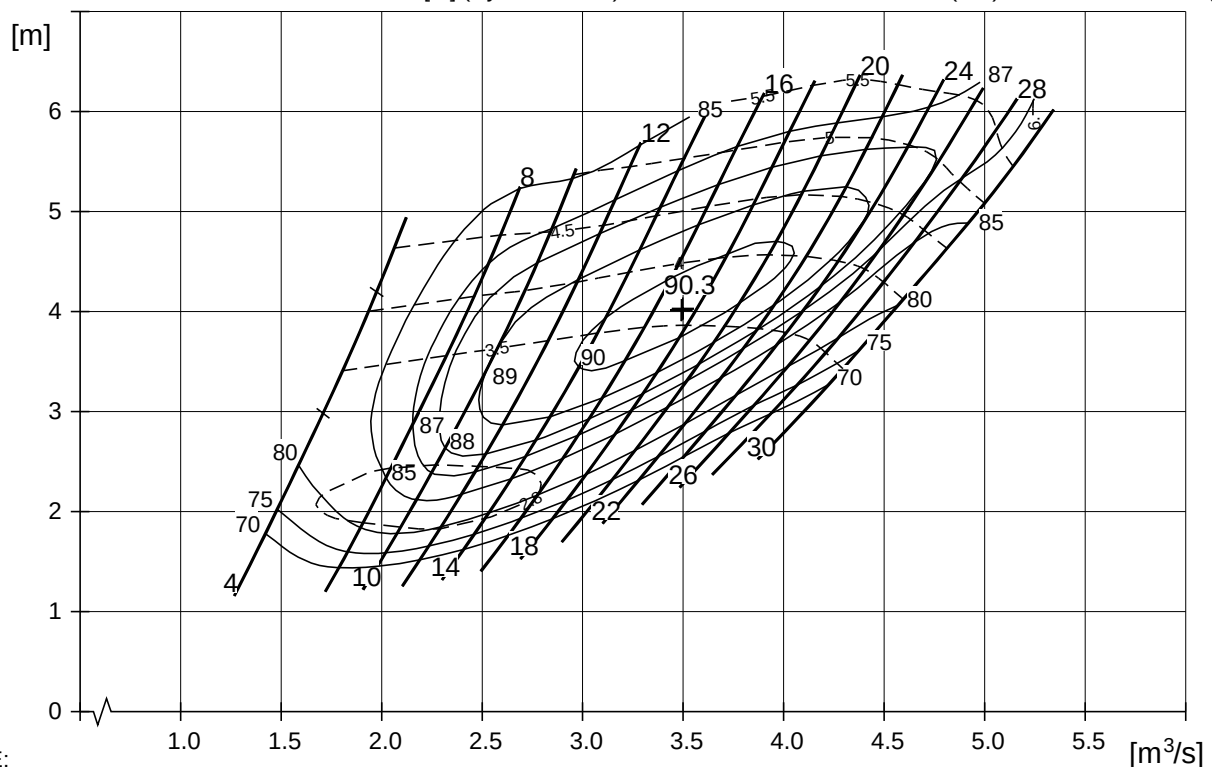
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

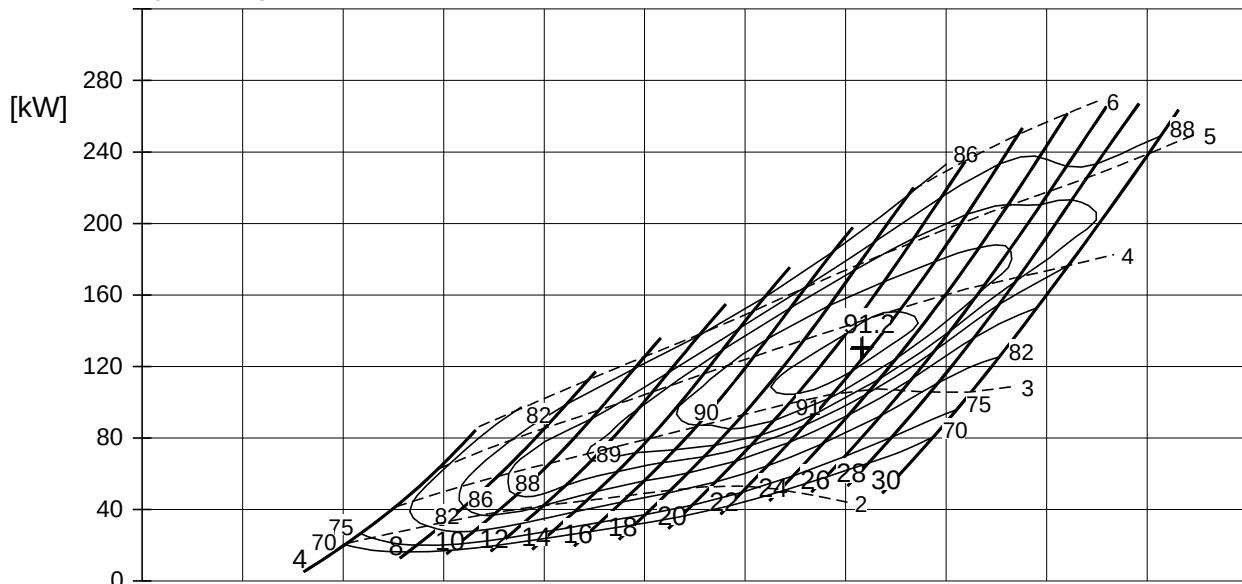
53- 227 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
227 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-12	1: 3.333	96.9% - 96.3%
905	66-56-8AA	8	350	350-12	1: 3.333	97.2% - 96.7%
905	66-56-8AA	8	390	360-12	1: 3.321	97.3% - 96.9%
935	66-66-8AA	8	430	360-22	1: 3.321	98.2% - 97.9%

POWER (SHAFT)

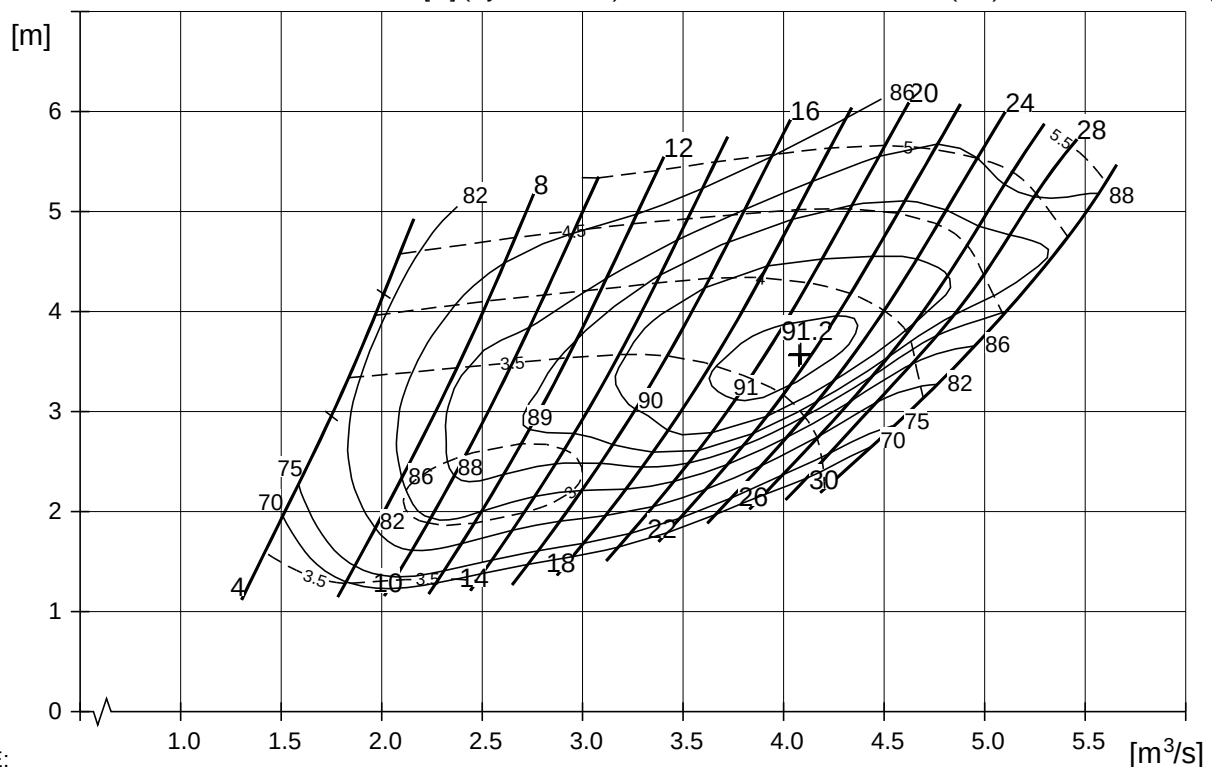
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

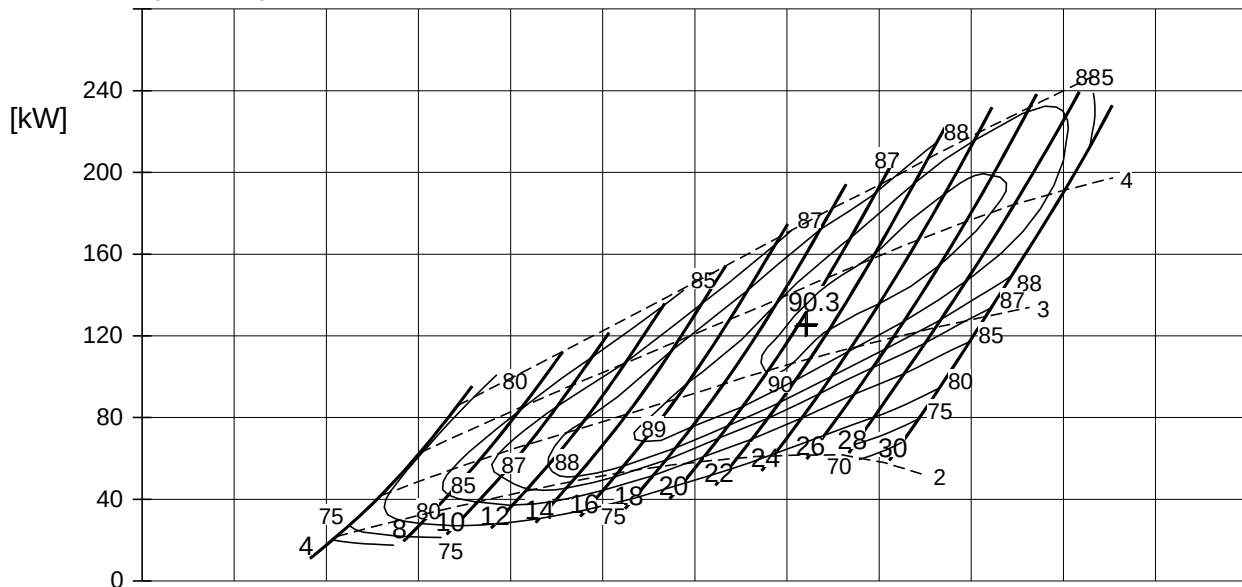
53- 227 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
227 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-12	1: 3.333	96.9% - 96.3%
905	66-56-8AA	8	350	350-12	1: 3.333	97.2% - 96.7%
905	66-56-8AA	8	390	360-12	1: 3.321	97.3% - 96.9%
935	66-66-8AA	8	430	360-22	1: 3.321	98.2% - 97.9%

POWER (SHAFT)

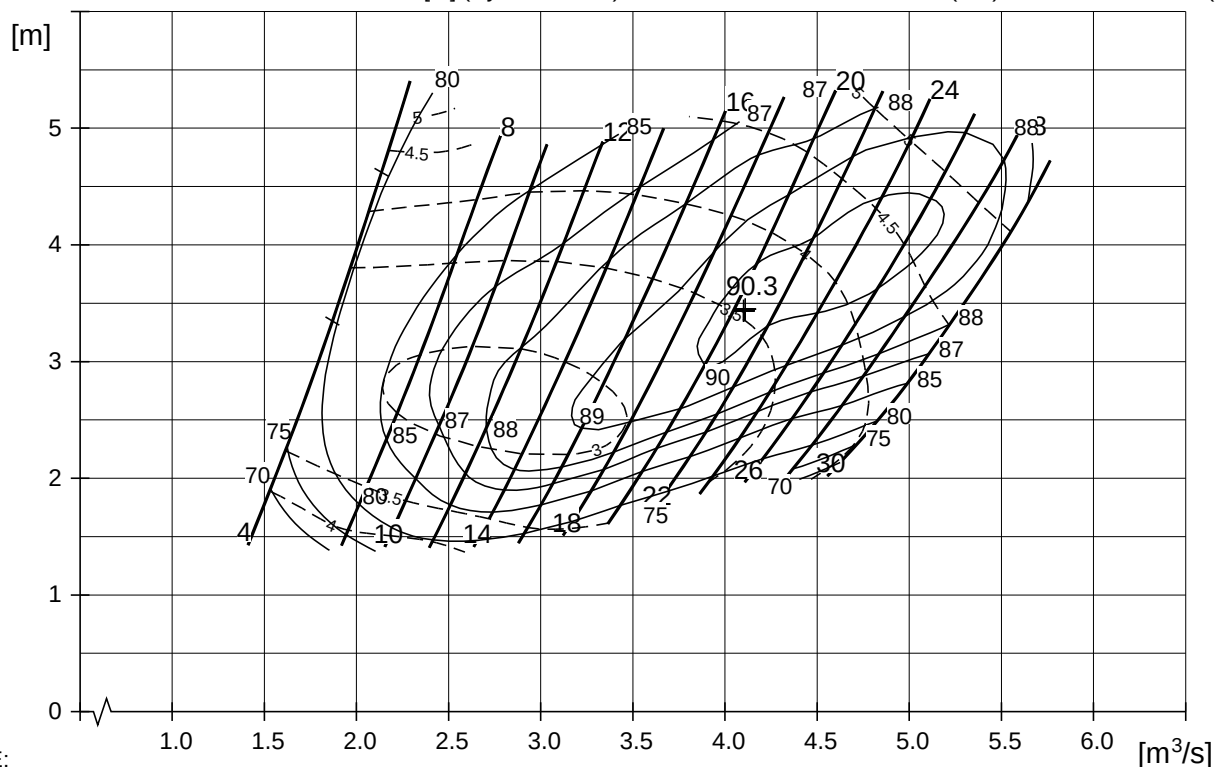
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

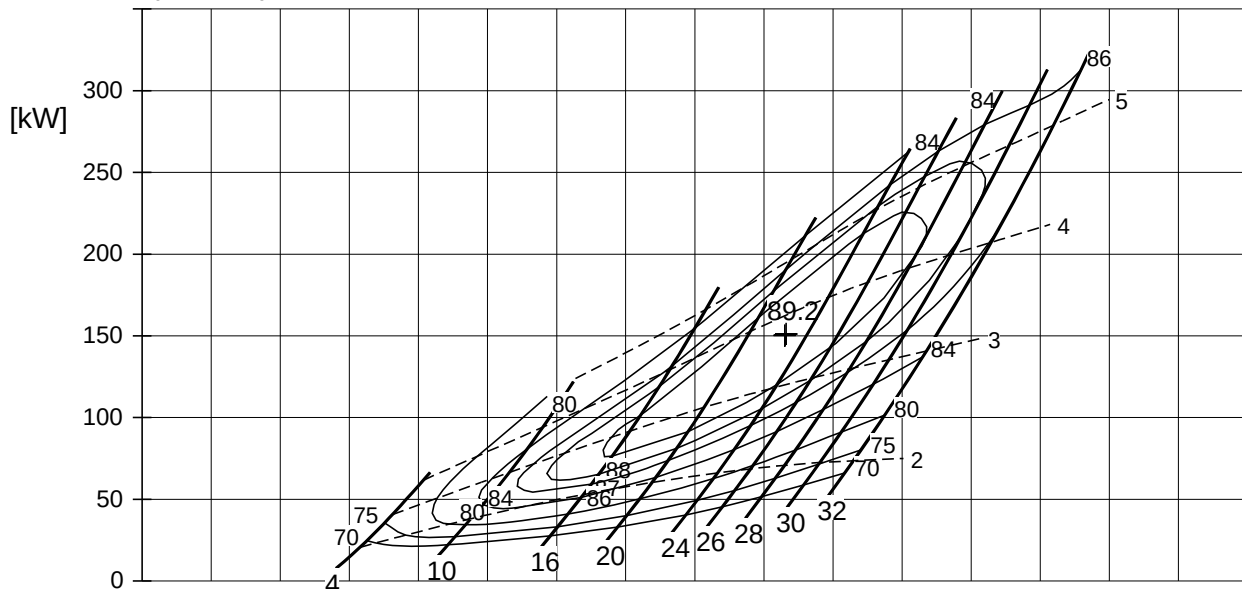
53- 227 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
227 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-12	1: 3.333	96.9% - 96.3%
905	66-56-8AA	8	350	350-12	1: 3.333	97.2% - 96.7%
905	66-56-8AA	8	390	360-12	1: 3.321	97.3% - 96.9%
935	66-66-8AA	8	430	360-22	1: 3.321	98.2% - 97.9%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)





TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

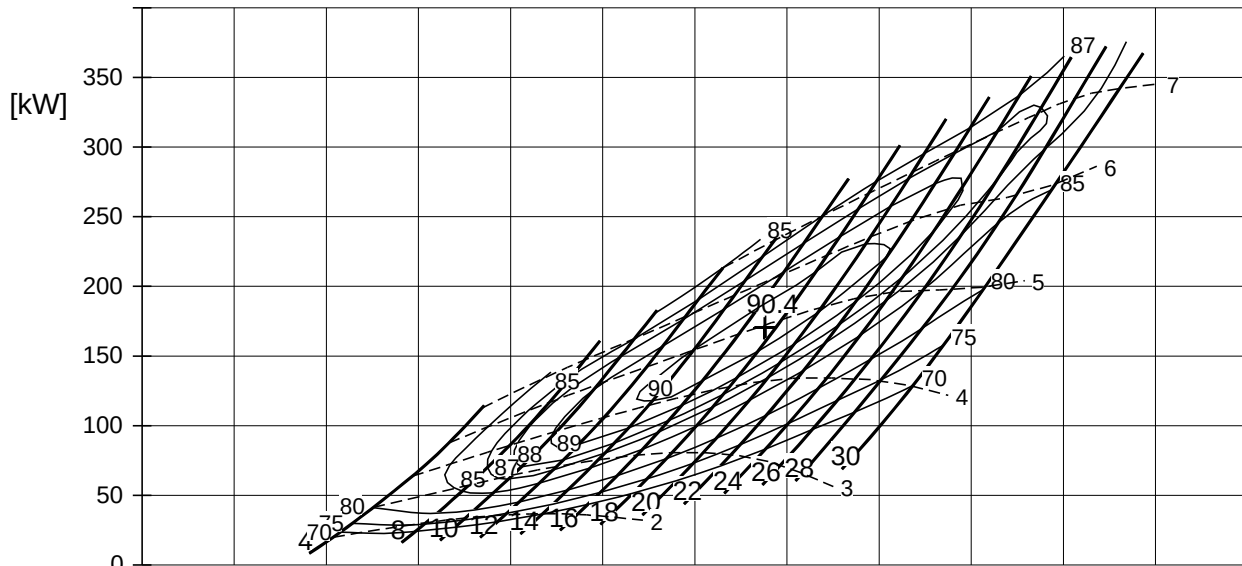
CURVE NO

53- 252 C4EDATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
252 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-12	1: 3.000	96.7% - 96.1%
905	66-56-8AA	8	350	350-22	1: 3.000	97.0% - 96.5%
905	66-56-8AA	8	390	360-22	1: 3.000	97.2% - 96.7%
935	66-66-8AA	8	430	360-22	1: 3.000	97.3% - 96.9%
935	66-76-8AA	8	500	360-22	1: 3.000	97.4% - 97.1%

POWER (SHAFT)

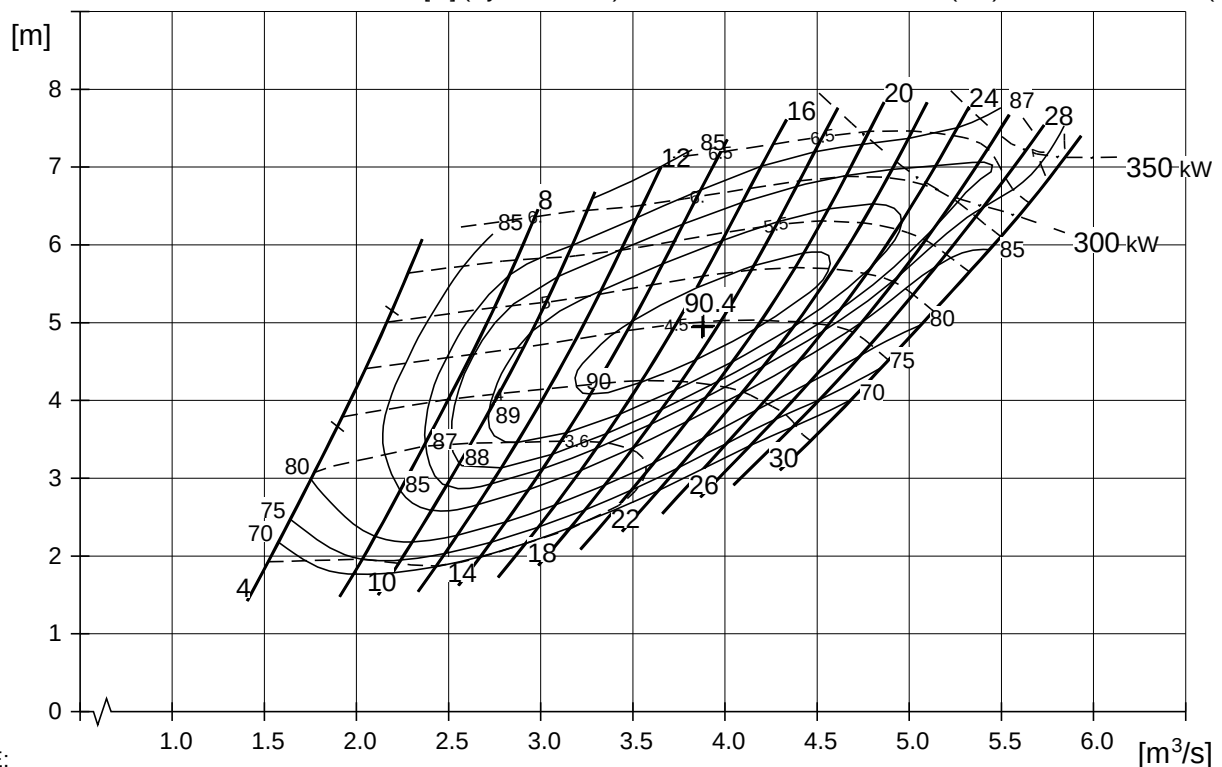
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

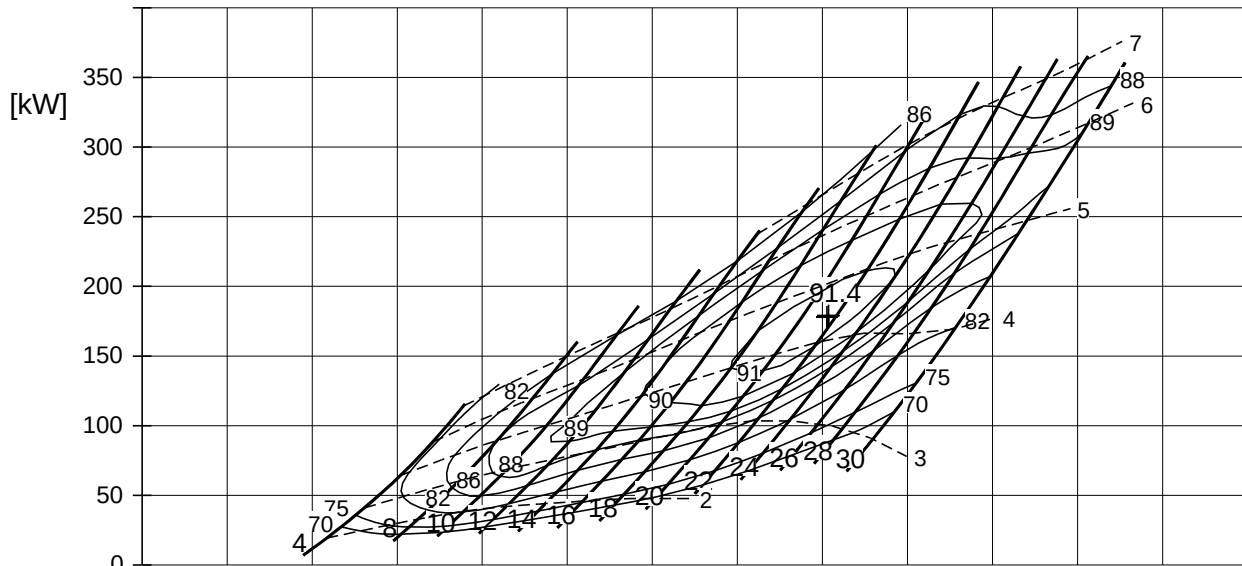
53- 252 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
252 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-12	1: 3.000	96.7% - 96.1%
905	66-56-8AA	8	350	350-22	1: 3.000	97.0% - 96.5%
905	66-56-8AA	8	390	360-22	1: 3.000	97.2% - 96.7%
935	66-66-8AA	8	430	360-22	1: 3.000	97.3% - 96.9%
935	66-76-8AA	8	500	360-22	1: 3.000	97.4% - 97.1%

POWER (SHAFT)

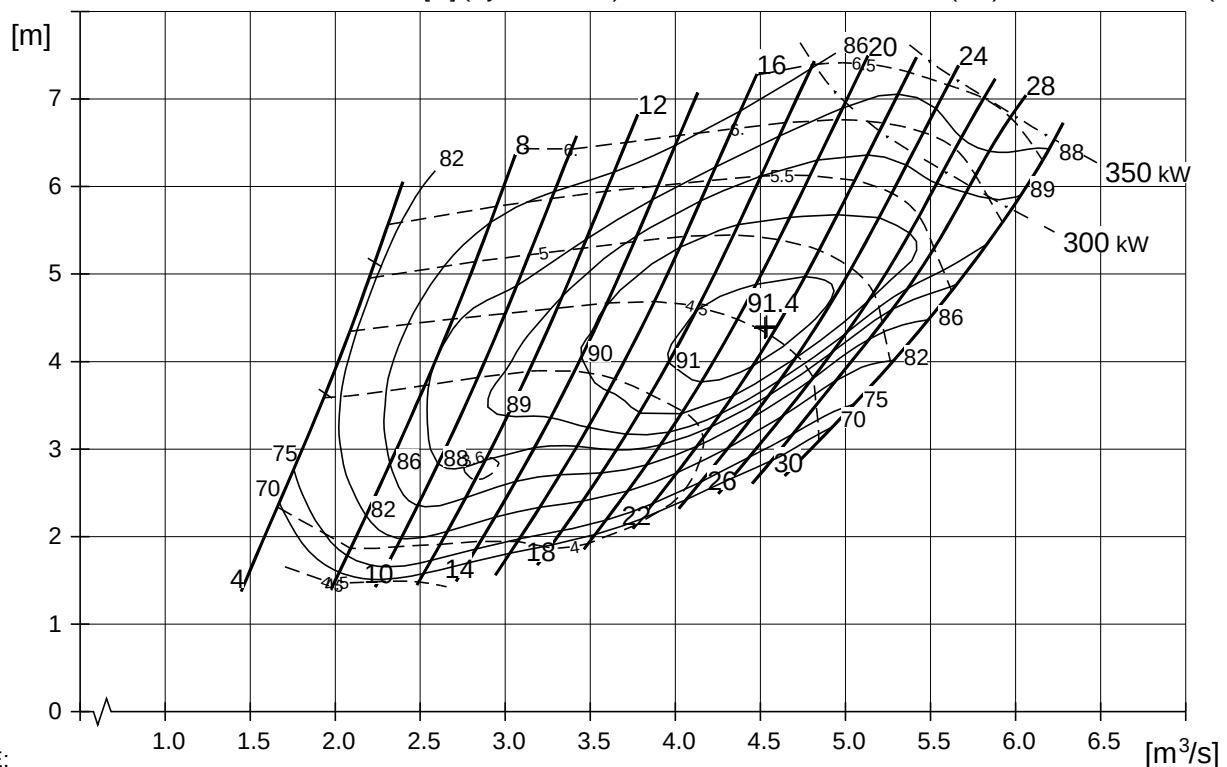
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

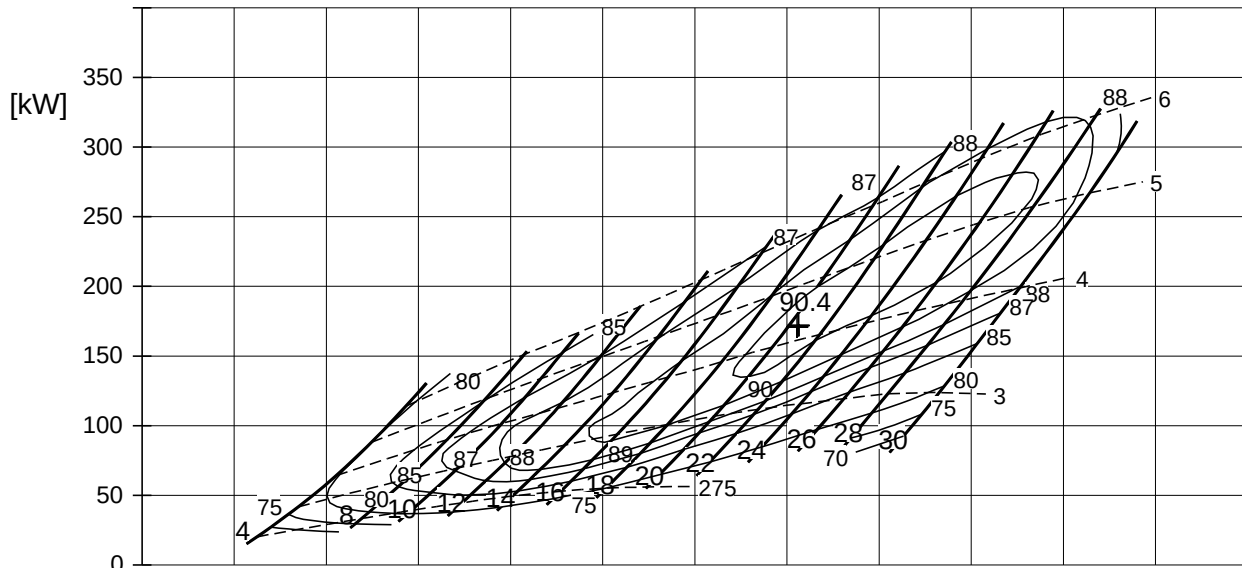
53- 252 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
252 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-12	1: 3.000	96.7% - 96.1%
905	66-56-8AA	8	350	350-22	1: 3.000	97.0% - 96.5%
905	66-56-8AA	8	390	360-22	1: 3.000	97.2% - 96.7%
935	66-66-8AA	8	430	360-22	1: 3.000	97.3% - 96.9%
935	66-76-8AA	8	500	360-22	1: 3.000	97.4% - 97.1%

POWER (SHAFT)

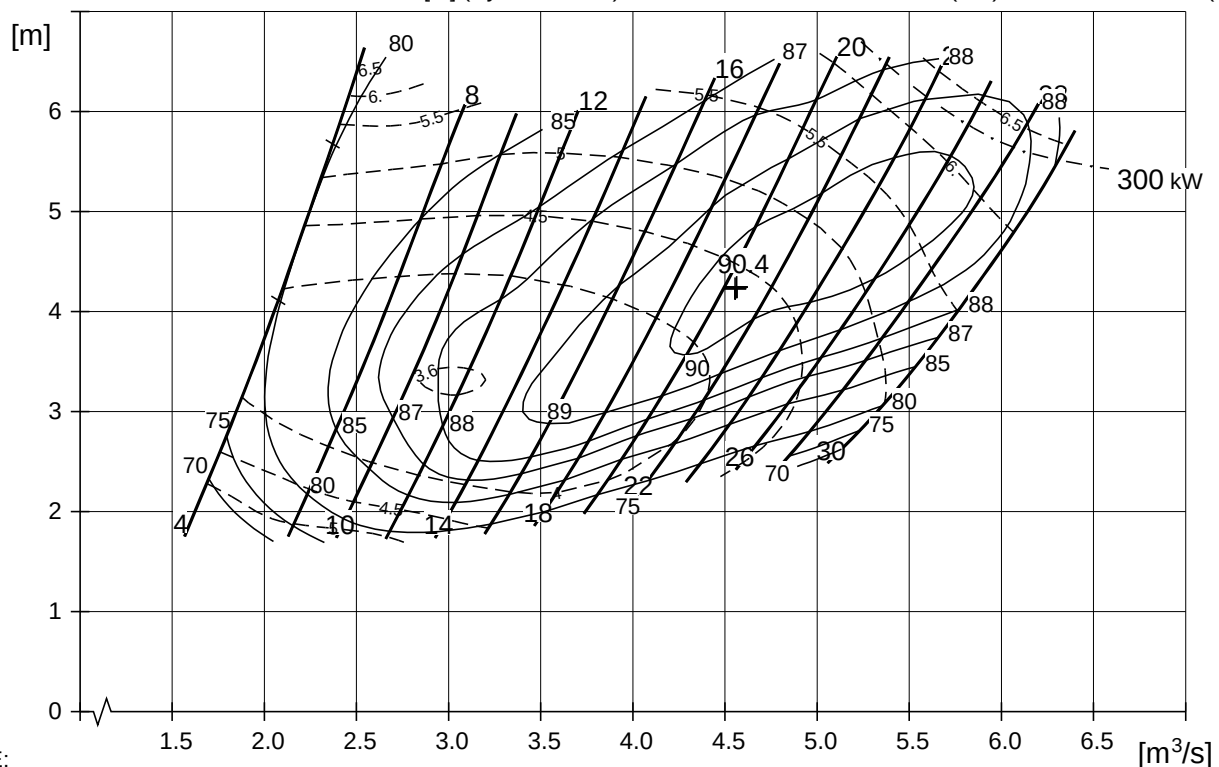
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

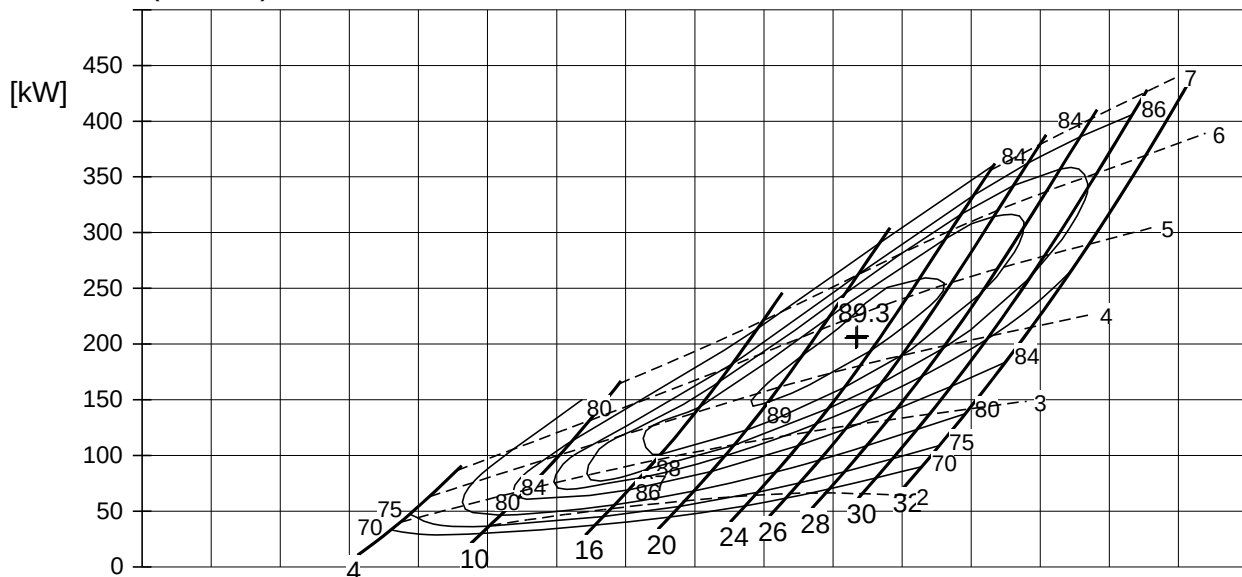
53- 252 C4E

DATE
2016-02-15ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
252 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-12	1: 3.000	96.7% - 96.1%
905	66-56-8AA	8	350	350-22	1: 3.000	97.0% - 96.5%
905	66-56-8AA	8	390	360-22	1: 3.000	97.2% - 96.7%
935	66-66-8AA	8	430	360-22	1: 3.000	97.3% - 96.9%
935	66-76-8AA	8	500	360-22	1: 3.000	97.4% - 97.1%

POWER (SHAFT)

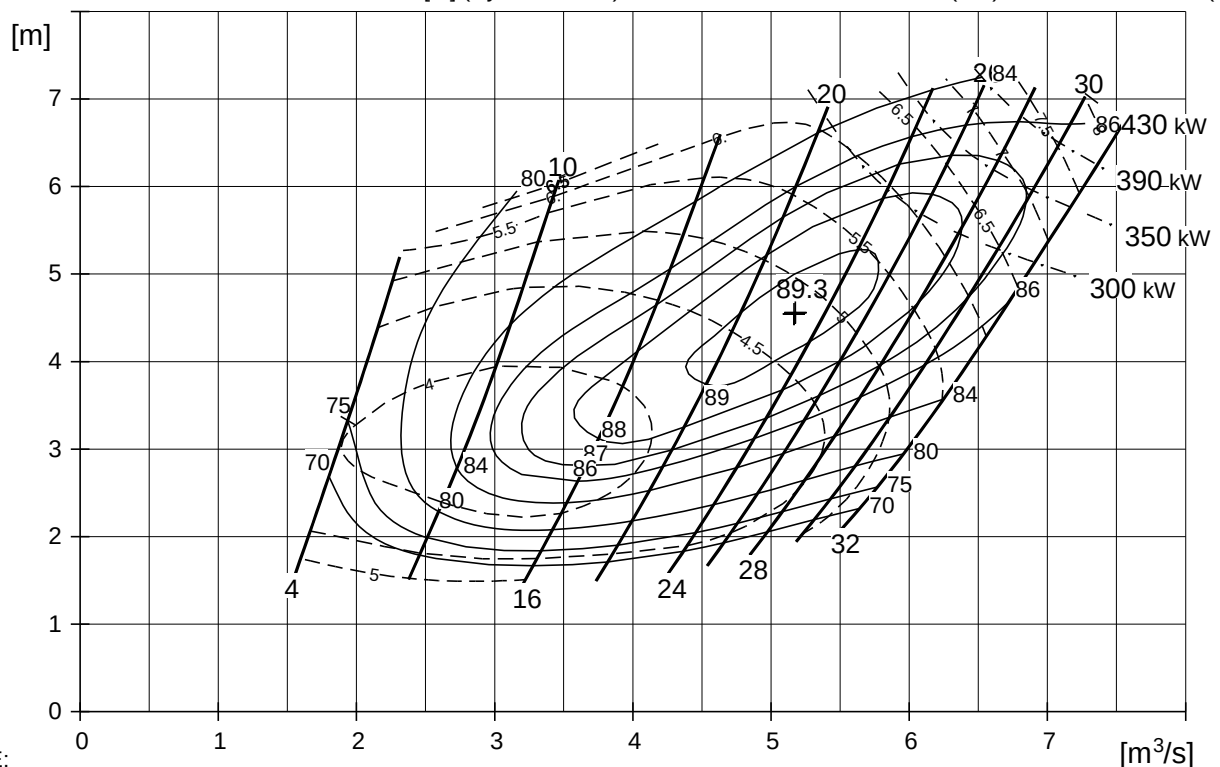
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

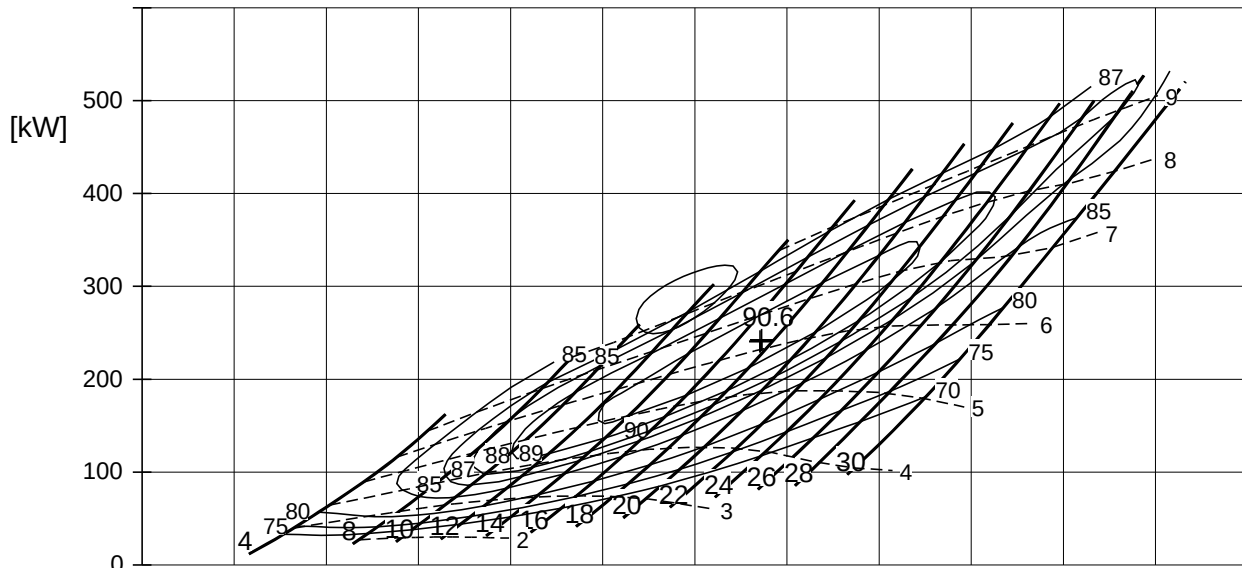
53- 283C4E

DATE
2016-02-16ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
283 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-12	1: 2.681	96.5% - 95.9%
905	66-56-8AA	8	325	350-12	1: 2.681	96.7% - 96.1%
905	66-56-8AA	8	390	360-12	1: 2.674	97.0% - 96.5%
935	66-66-8AA	8	430	360-22	1: 2.674	97.1% - 96.7%
935	66-76-8AA	8	500	360-22	1: 2.674	97.3% - 96.9%

POWER (SHAFT)

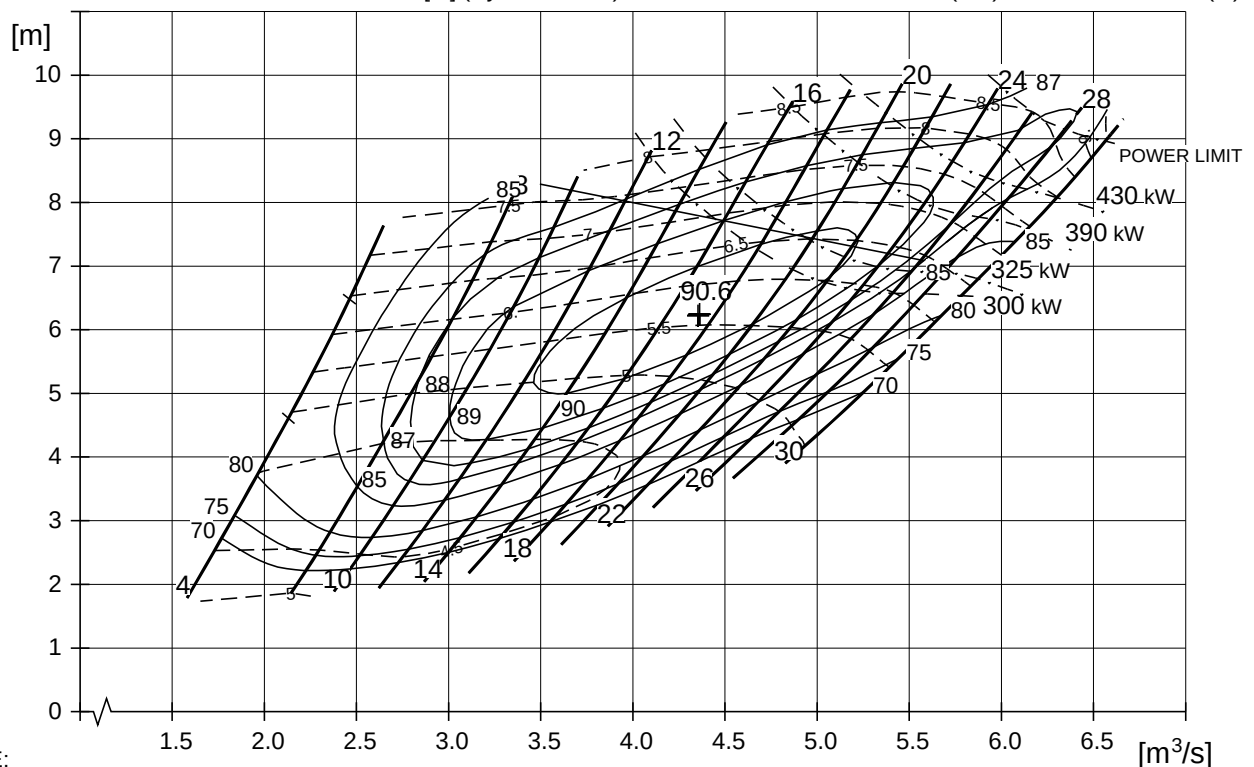
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

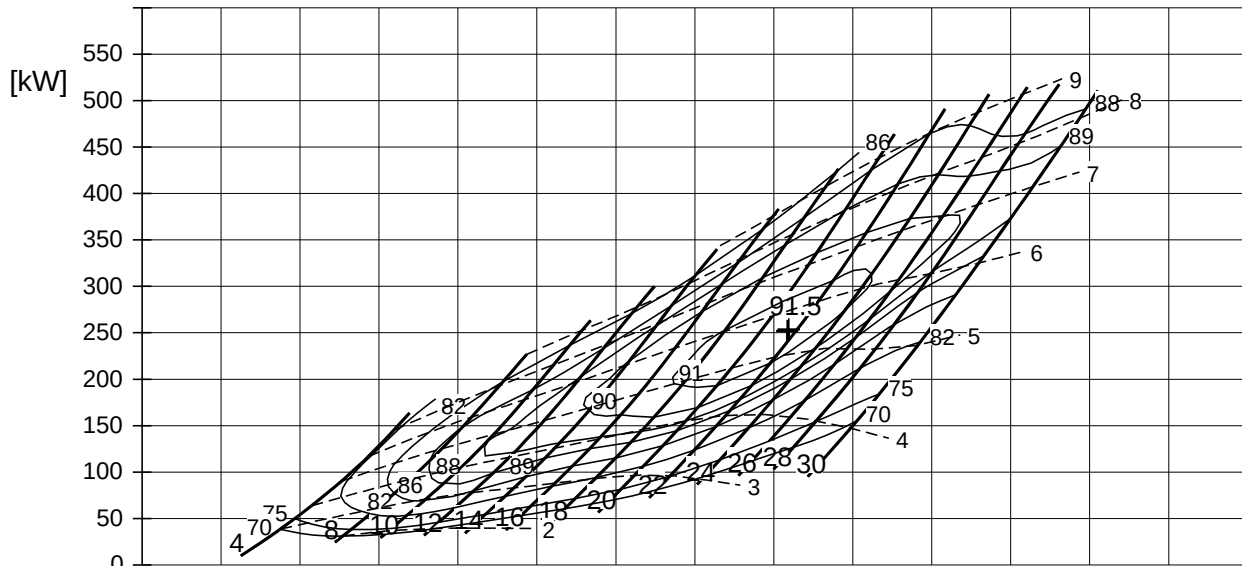
53- 283C4E

DATE
2016-02-16ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
283 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-12	1: 2.681	96.5% - 95.9%
905	66-56-8AA	8	325	350-12	1: 2.681	96.7% - 96.1%
905	66-56-8AA	8	390	360-12	1: 2.674	97.0% - 96.5%
935	66-66-8AA	8	430	360-22	1: 2.674	97.1% - 96.7%
935	66-76-8AA	8	500	360-22	1: 2.674	97.3% - 96.9%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)



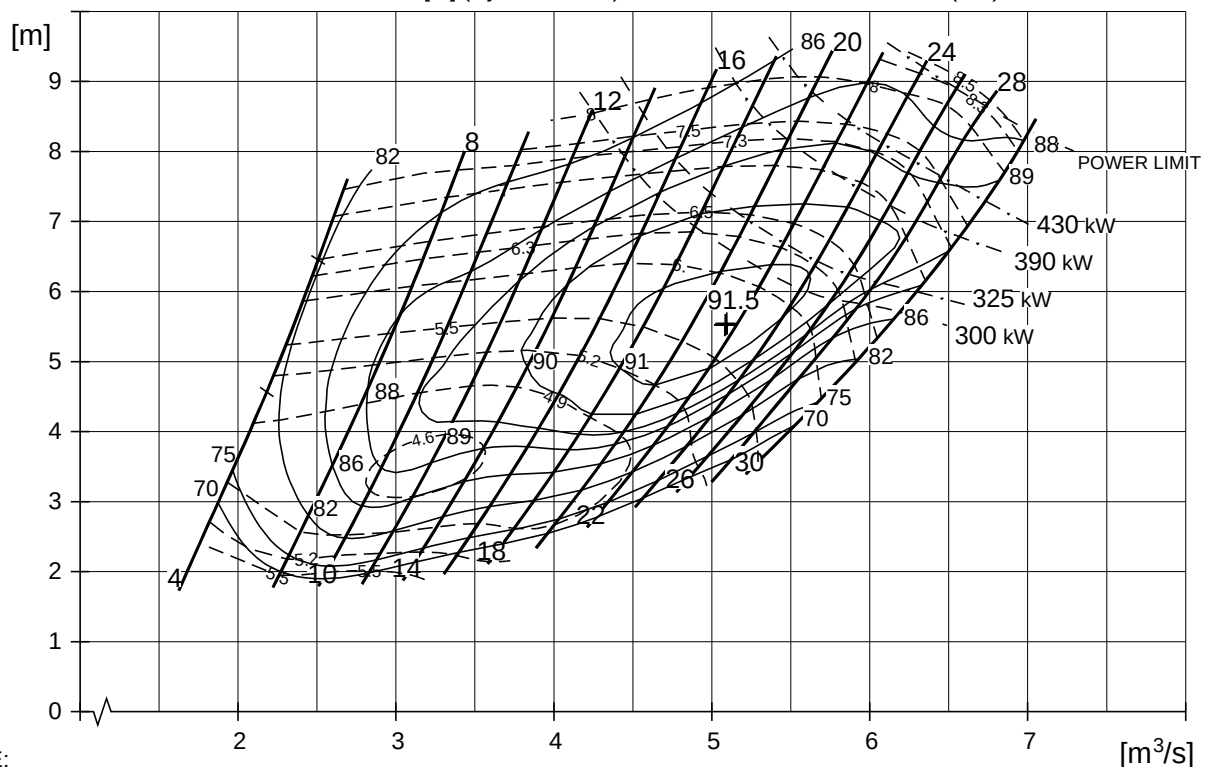
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

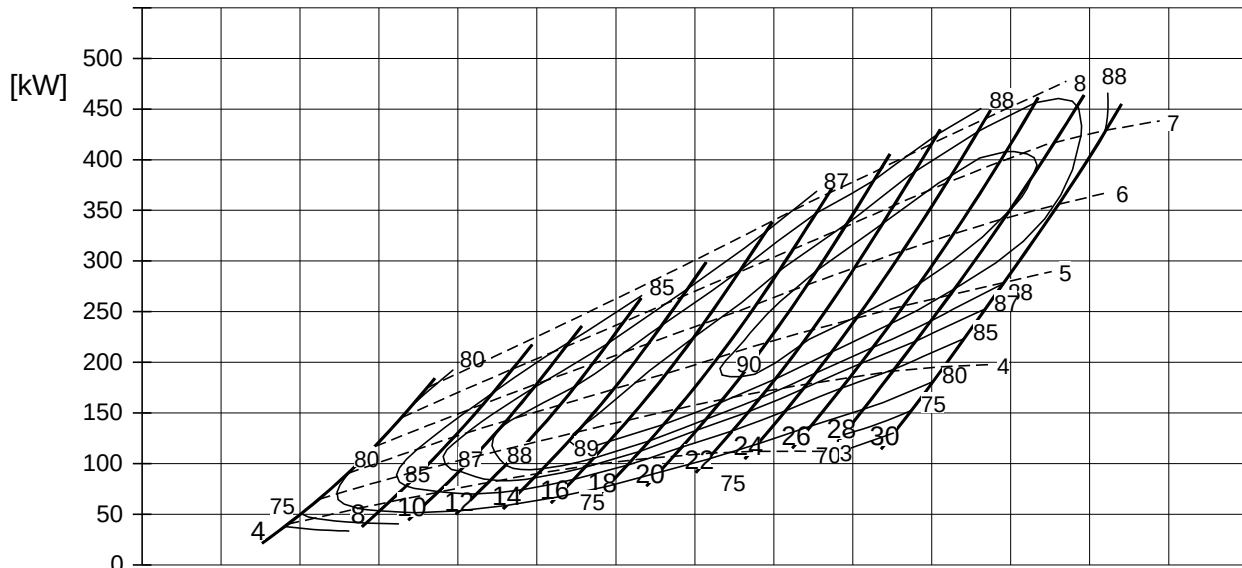
53- 283C4E

DATE
2016-02-25ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
283 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-12	1: 2.681	96.5% - 95.9%
905	66-56-8AA	8	325	350-12	1: 2.681	96.7% - 96.1%
905	66-56-8AA	8	390	360-12	1: 2.674	97.0% - 96.5%
935	66-66-8AA	8	430	360-22	1: 2.674	97.1% - 96.7%
935	66-76-8AA	8	500	360-22	1: 2.674	97.3% - 96.9%

POWER (SHAFT)

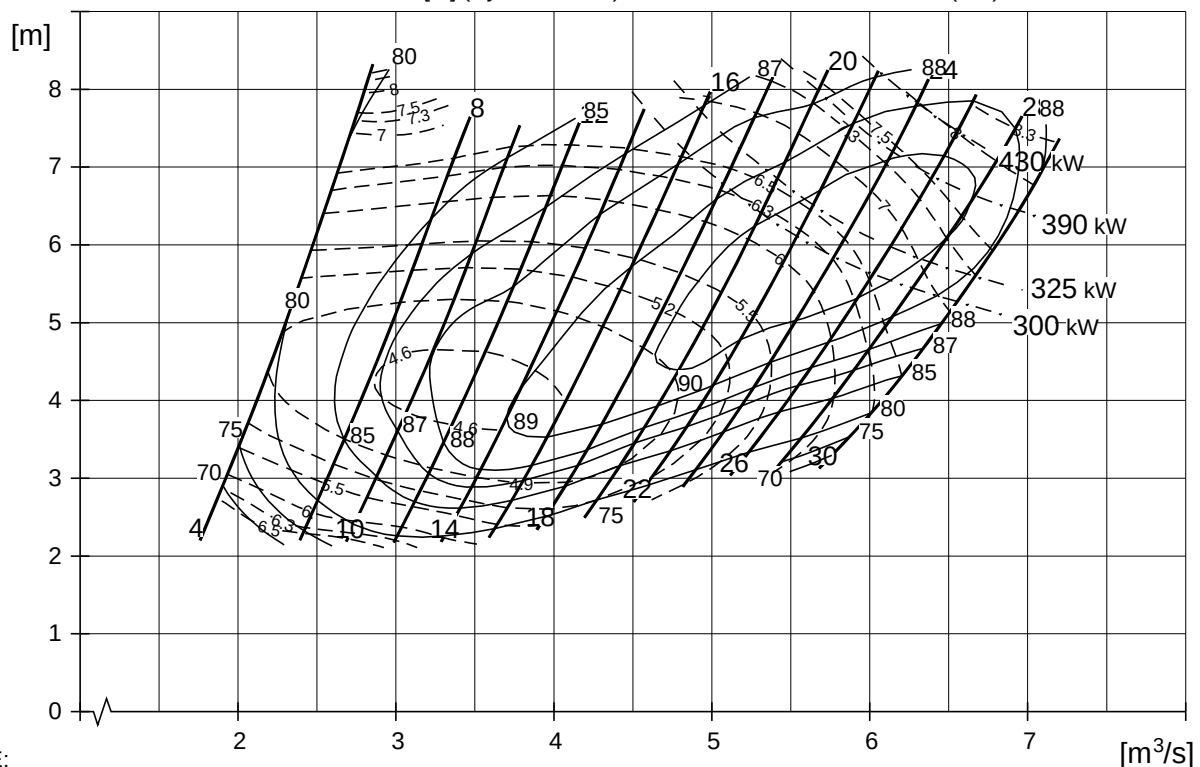
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

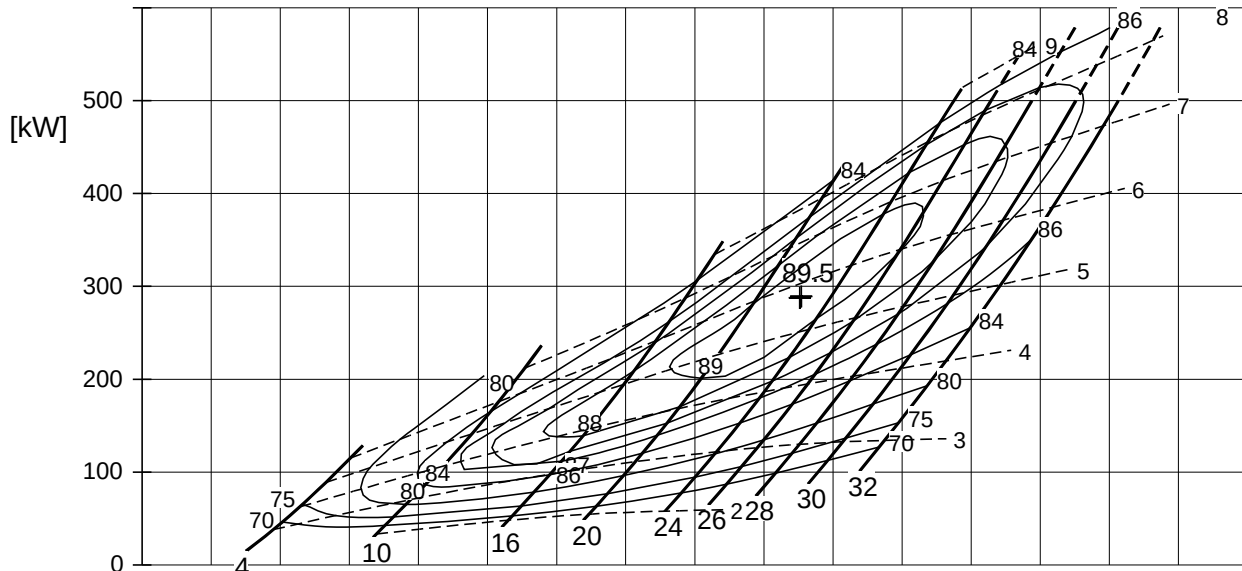
53- 283C4E

DATE
2016-02-16ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
283 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-12	1: 2.681	96.5% - 95.9%
905	66-56-8AA	8	325	350-12	1: 2.681	96.7% - 96.1%
905	66-56-8AA	8	390	360-12	1: 2.674	97.0% - 96.5%
935	66-66-8AA	8	430	360-22	1: 2.674	97.1% - 96.7%
935	66-76-8AA	8	500	360-22	1: 2.674	97.3% - 96.9%

POWER (SHAFT)

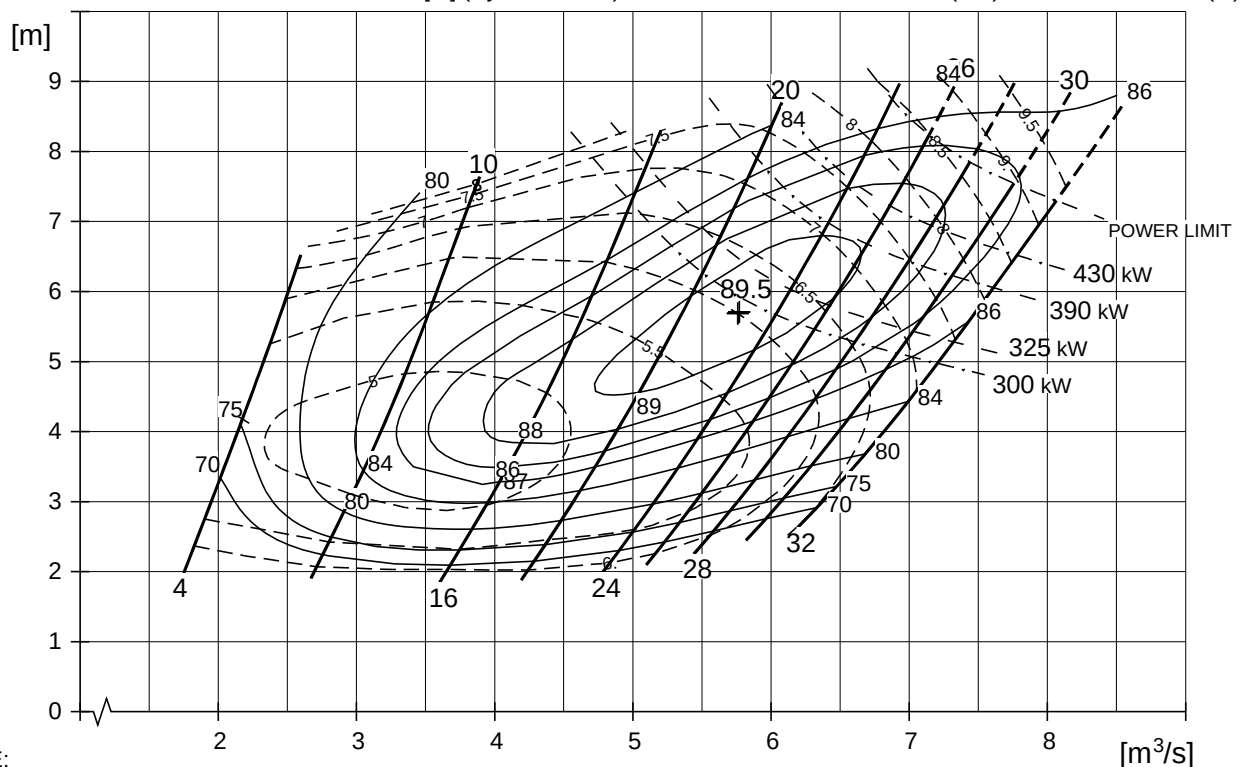
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

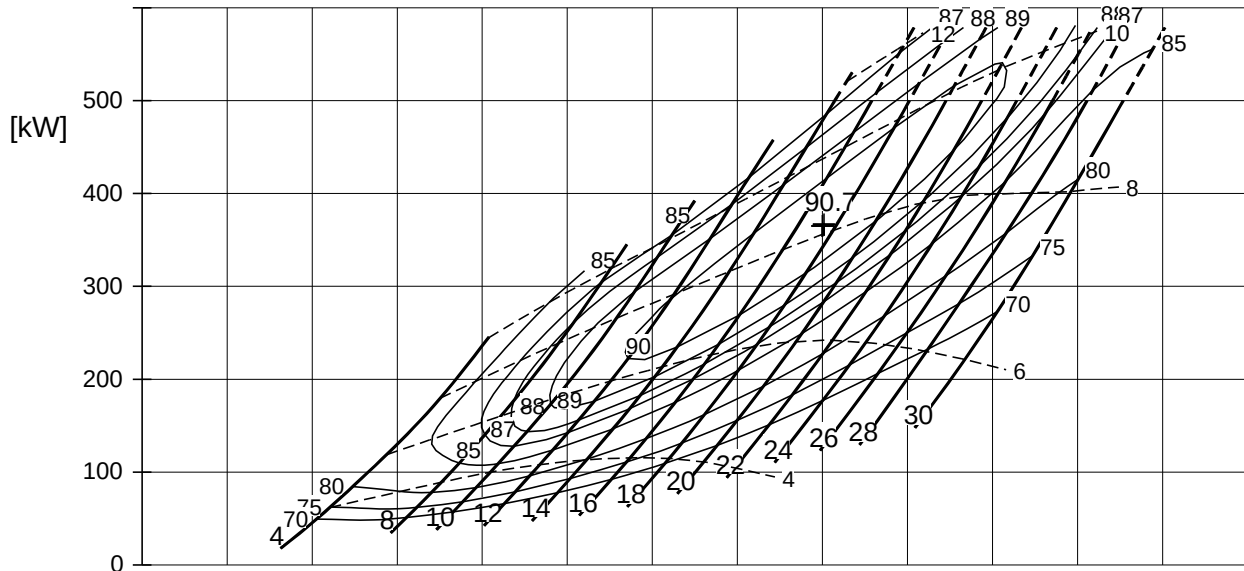
53- 325 C4E

DATE
2016-02-16ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
325 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-13	1: 2.333	97.3% - 96.8%
905	66-56-8AA	8	350	350-13	1: 2.333	97.5% - 97.1%
905	66-56-8AA	8	390	360-13	1: 2.321	97.6% - 97.2%
935	66-66-8AA	8	430	360-13	1: 2.321	97.7% - 97.4%
935	66-76-8AA	8	500	360-23	1: 2.321	98.3% - 98.1%

POWER (SHAFT)

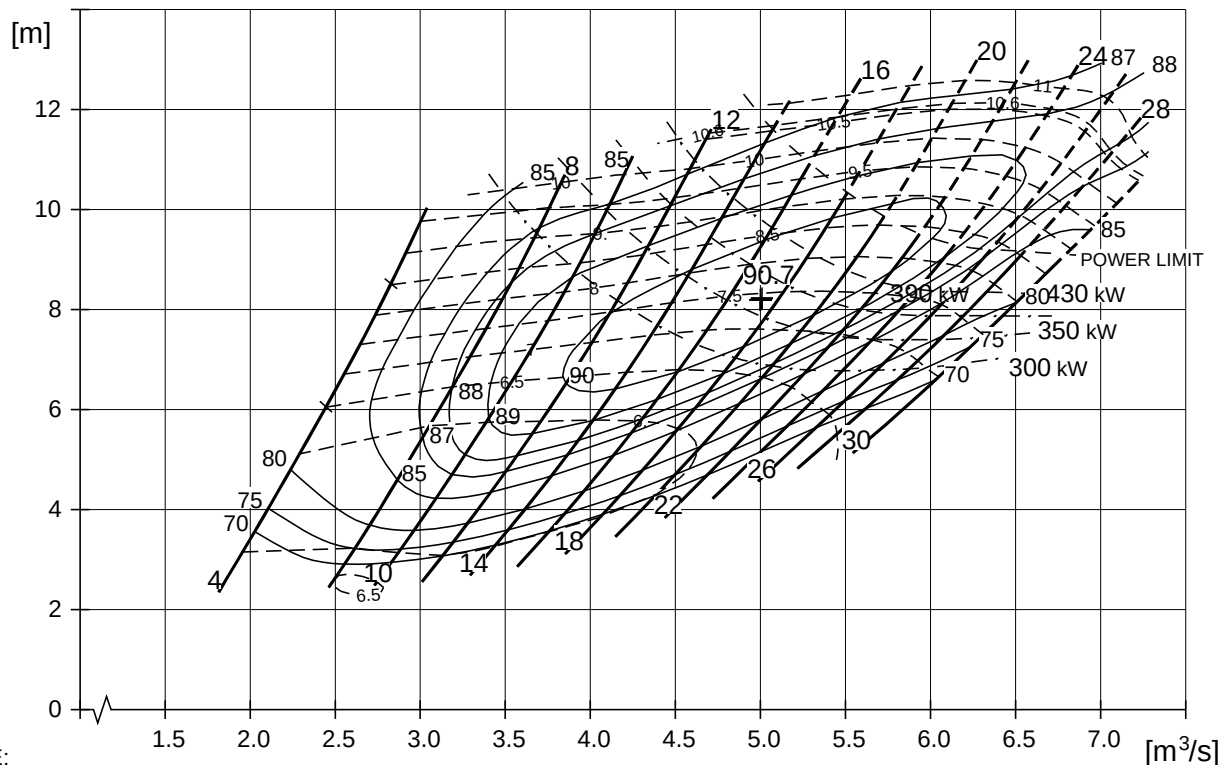
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

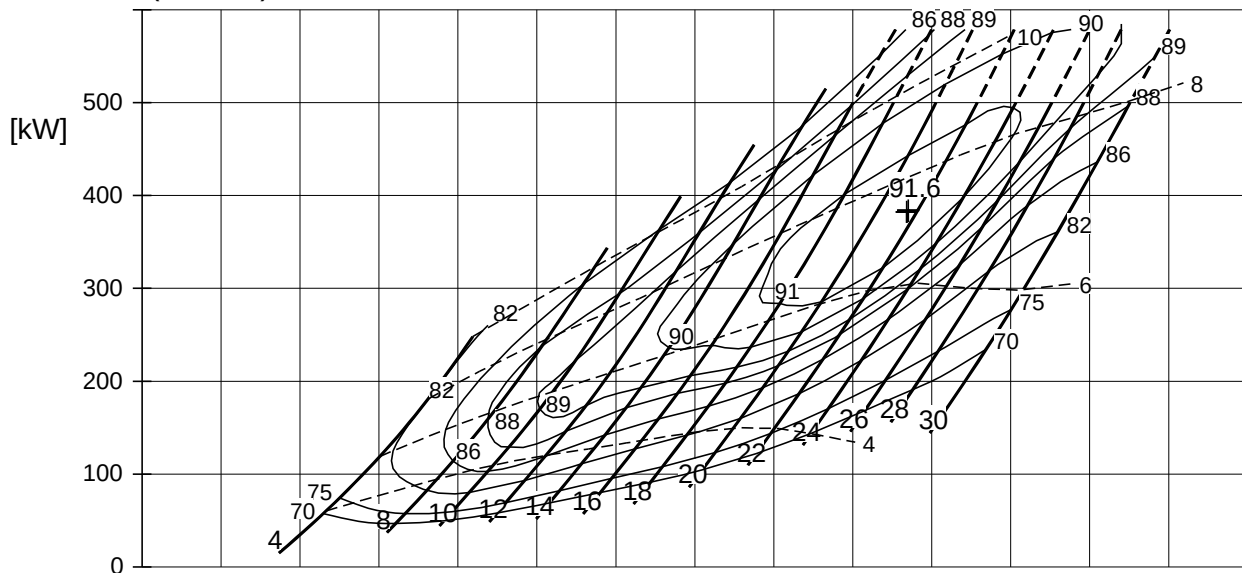
53- 325 C4E

DATE
2016-02-16ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
325 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-13	1: 2.333	97.3% - 96.8%
905	66-56-8AA	8	350	350-13	1: 2.333	97.5% - 97.1%
905	66-56-8AA	8	390	360-13	1: 2.321	97.6% - 97.2%
935	66-66-8AA	8	430	360-13	1: 2.321	97.7% - 97.4%
935	66-76-8AA	8	500	360-23	1: 2.321	98.3% - 98.1%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)





TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

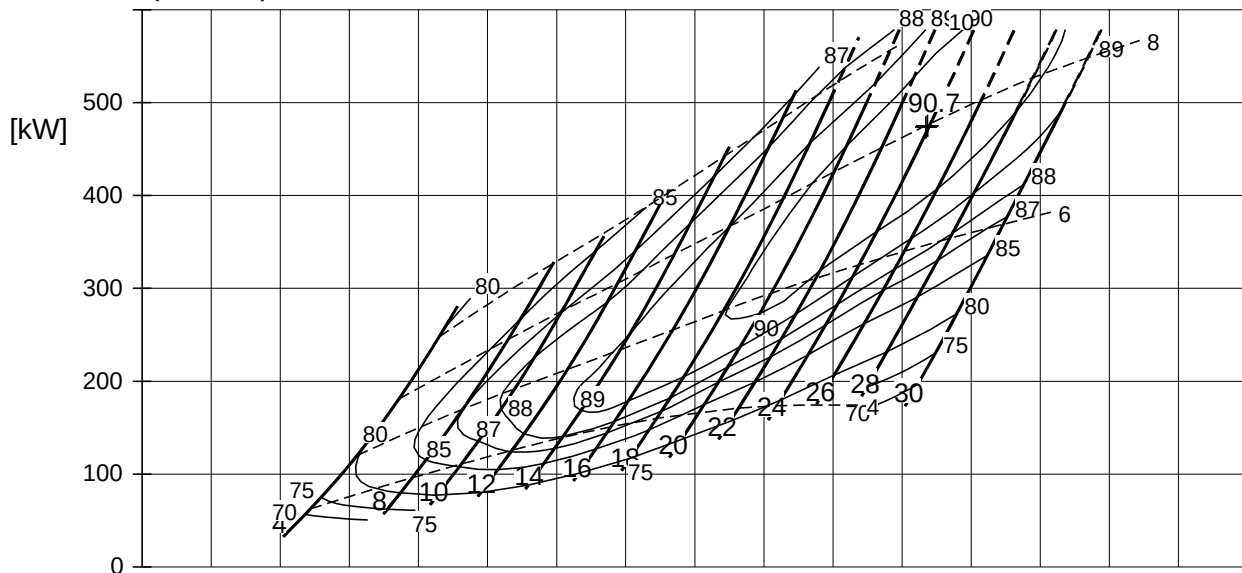
53- 325 C4E

DATE
2016-02-16ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
325 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-13	1: 2.333	97.3% - 96.8%
905	66-56-8AA	8	350	350-13	1: 2.333	97.5% - 97.1%
905	66-56-8AA	8	390	360-13	1: 2.321	97.6% - 97.2%
935	66-66-8AA	8	430	360-13	1: 2.321	97.7% - 97.4%
935	66-76-8AA	8	500	360-23	1: 2.321	98.3% - 98.1%

POWER (SHAFT)

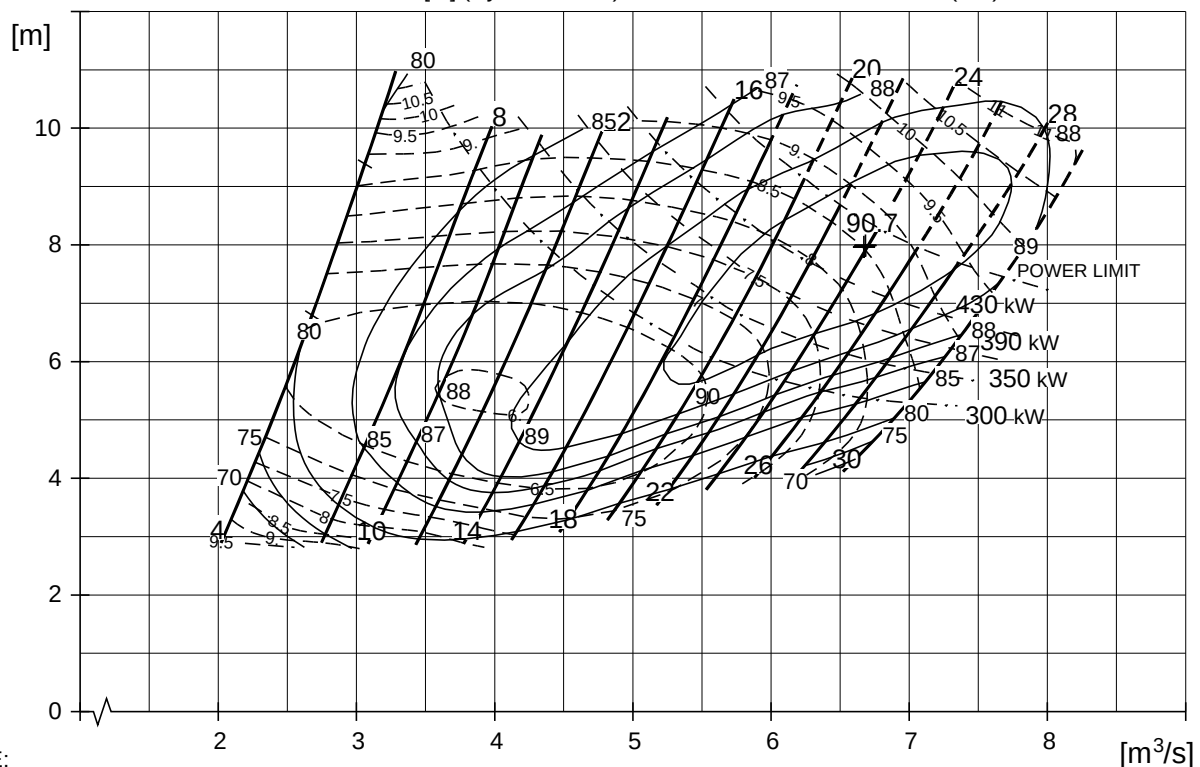
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

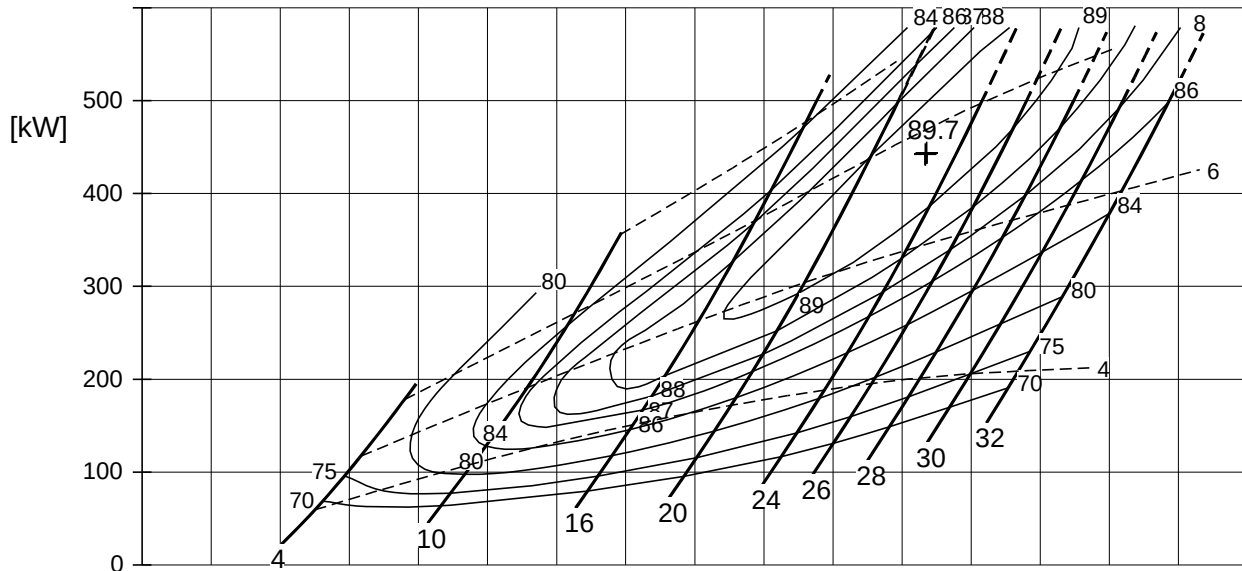
53- 325 C4E

DATE
2016-02-16ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
325 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-13	1: 2.333	97.3% - 96.8%
905	66-56-8AA	8	350	350-13	1: 2.333	97.5% - 97.1%
905	66-56-8AA	8	390	360-13	1: 2.321	97.6% - 97.2%
935	66-66-8AA	8	430	360-13	1: 2.321	97.7% - 97.4%
935	66-76-8AA	8	500	360-23	1: 2.321	98.3% - 98.1%

POWER (SHAFT)

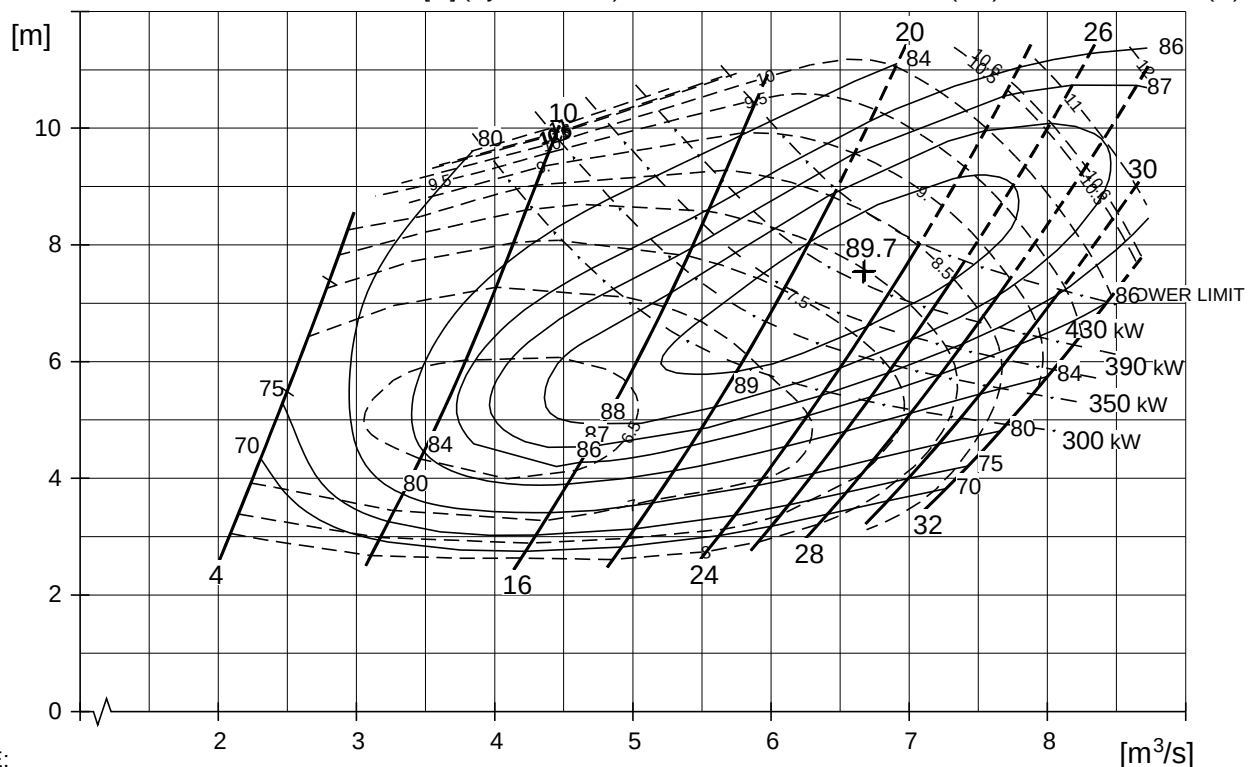
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

53- 378C4E

DATE
2016-02-16ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
378 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
935GENERATOR
66-66-8AAPOLES
8GEN. POWER
430 kWGEAR TYPE
360-13GEAR RATIO
1: 2.000GEAR EFFICIENCY (Load:1/1-3/4)
97.5% - 97.2%

935

66-76-8AA

8

500

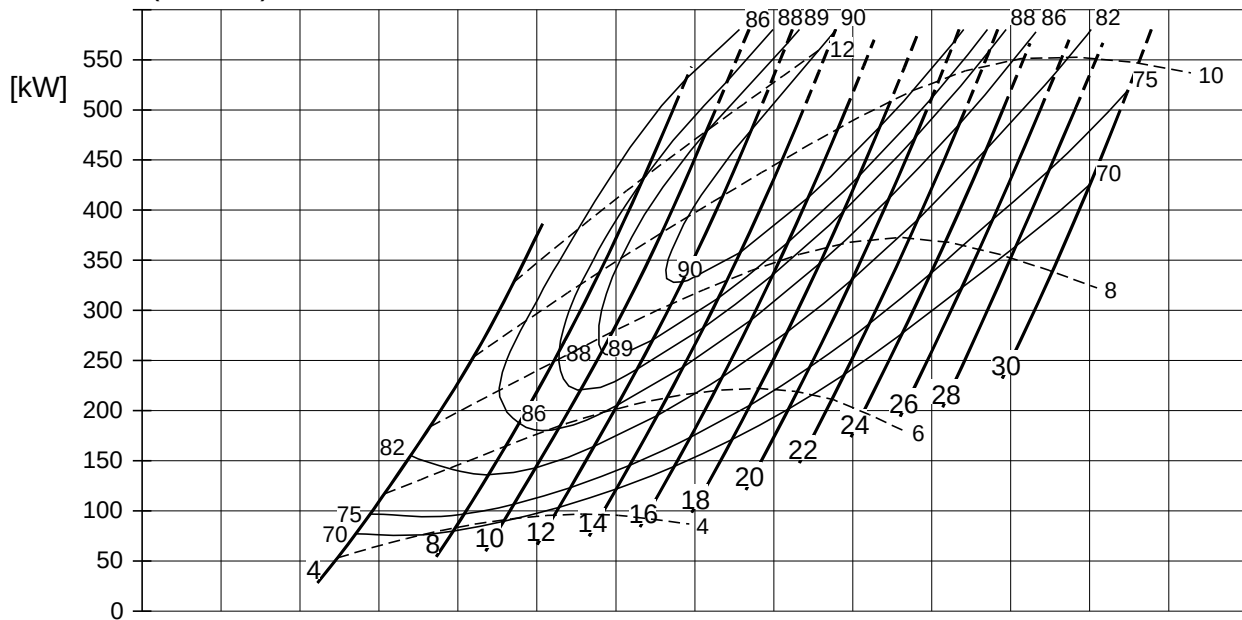
360-13

1: 2.000

97.7% - 97.4%

POWER (SHAFT)

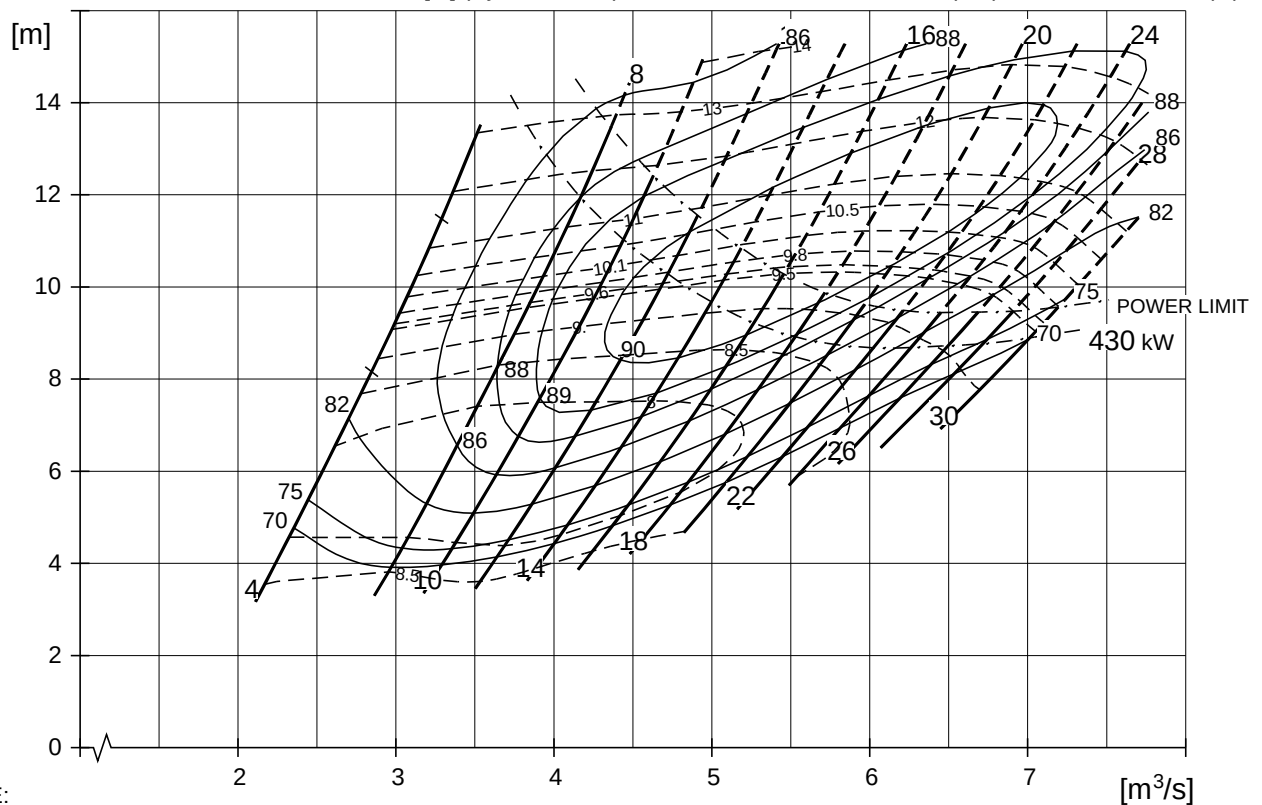
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

53- 378C4E

DATE
2016-02-16ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
378 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
935GENERATOR
66-66-8AAPOLES
8GEN. POWER
430 kWGEAR TYPE
360-13GEAR RATIO
1: 2.000GEAR EFFICIENCY (Load:1/1-3/4)
97.5% - 97.2%

935

66-76-8AA

8

500

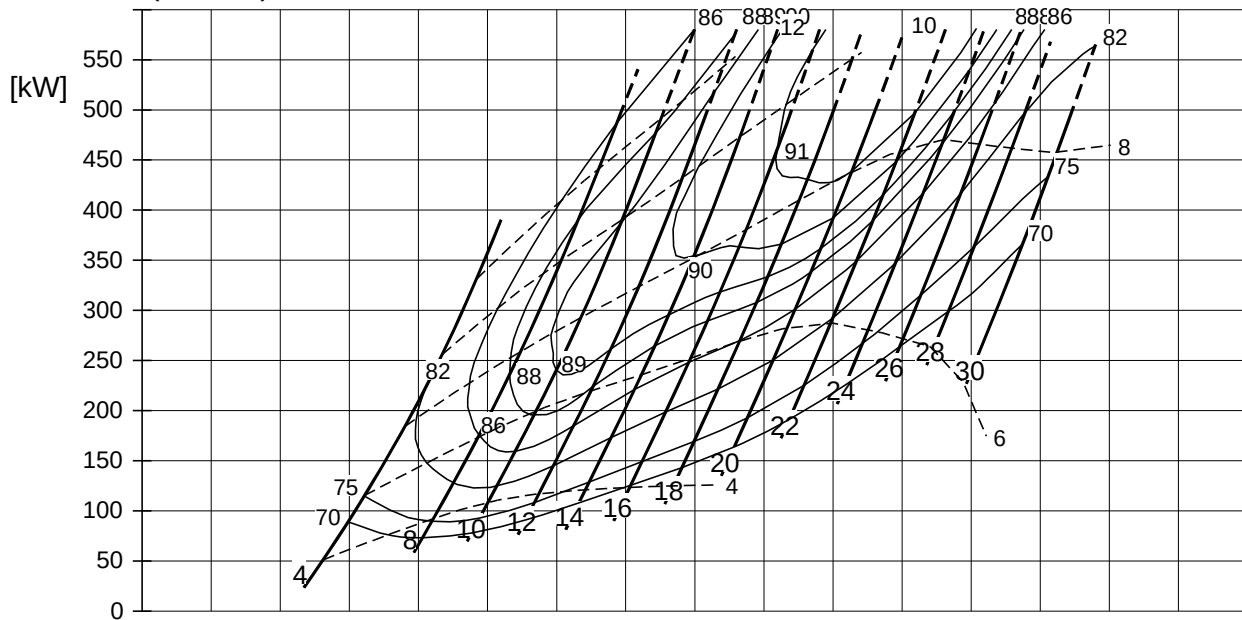
360-13

1: 2.000

97.7% - 97.4%

POWER (SHAFT)

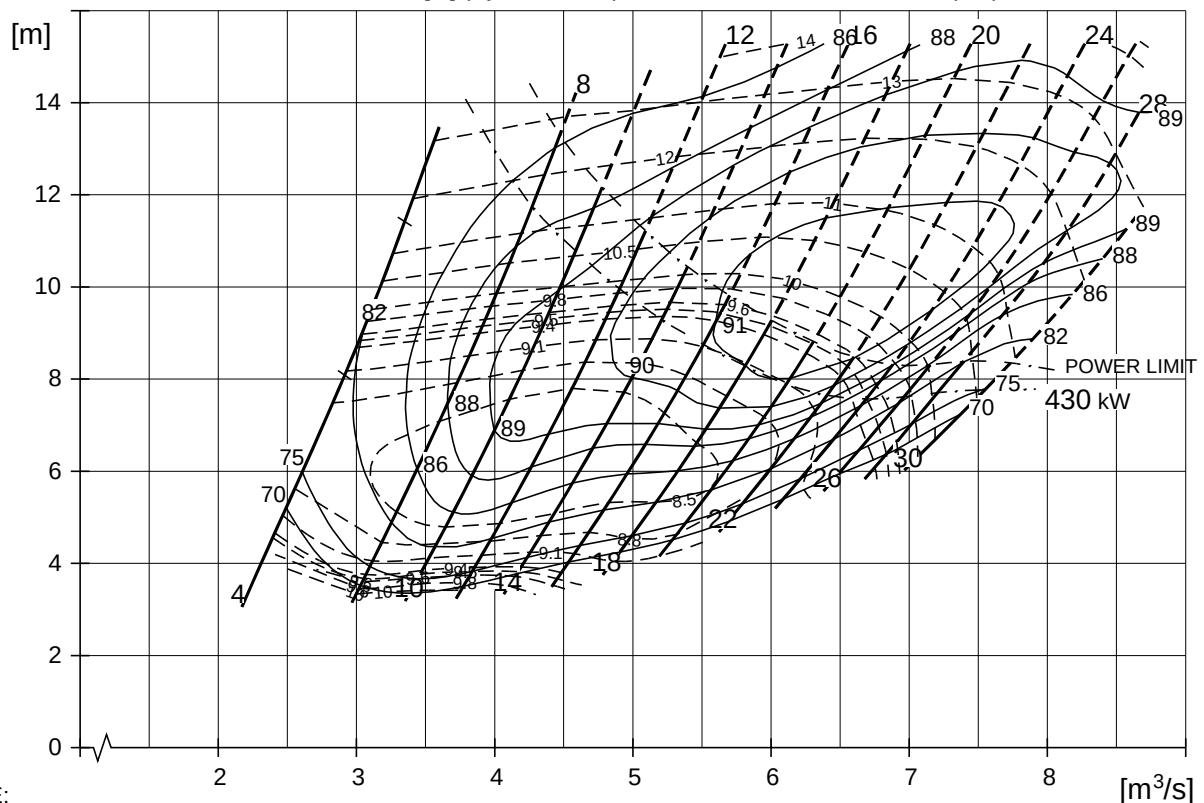
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

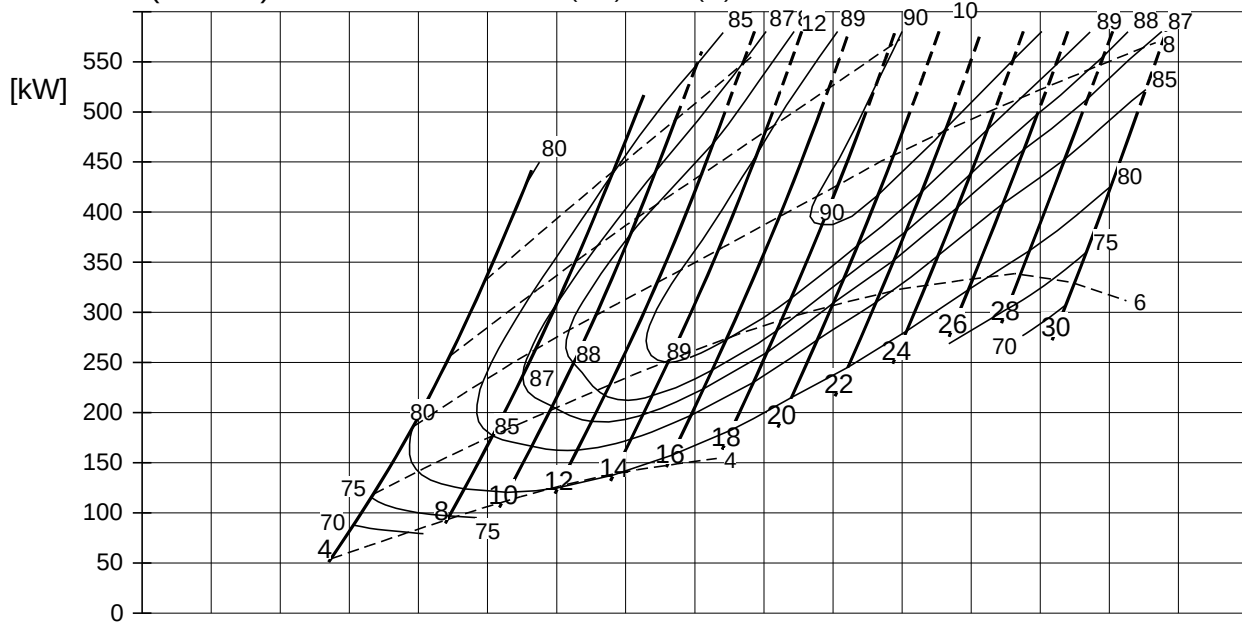
CURVE NO

53- 378C4E

DATE 2016-02-16	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 378 RPM			
IMPELLER/HUB DIAMETER 1200 / 550 mm	GUIDE VANE(S) 63 deg		NO. OF BLADES 4	AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 30 deg		
DRIVE UNIT 935	GENERATOR 66-66-8AA	POLES 8	GEN. POWER 430 kW	GEAR TYPE 360-13	GEAR RATIO 1: 2.000	GEAR EFFICIENCY (Load:1/1-3/4) 97.5% - 97.2%
935	66-76-8AA	8	500	360-13	1: 2.000	97.7% - 97.4%

POWER (SHAFT)

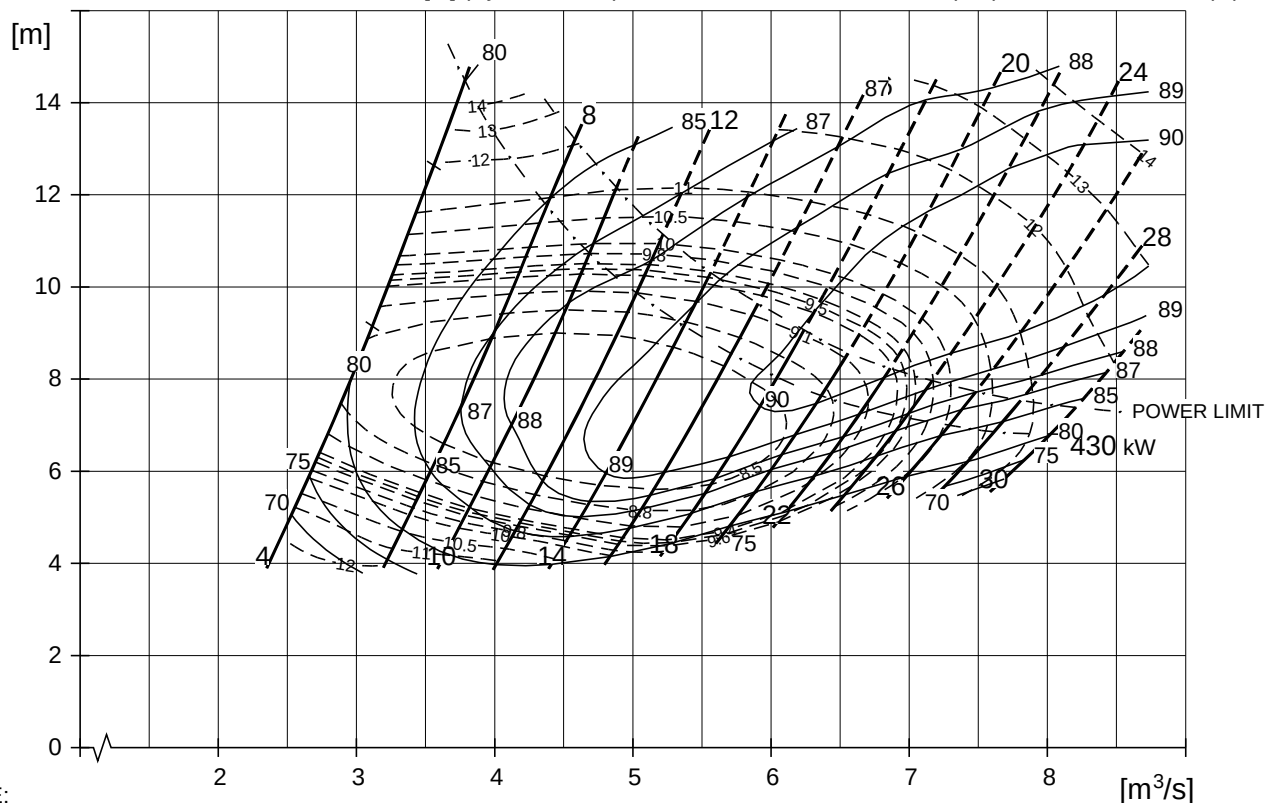
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

53- 378C4E

DATE
2016-02-16ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
378 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 degDRIVE UNIT
935GENERATOR
66-66-8AAPOLES
8GEN. POWER
430 kWGEAR TYPE
360-13GEAR RATIO
1: 2.000GEAR EFFICIENCY (Load:1/1-3/4)
97.5% - 97.2%

935

66-76-8AA

8

500

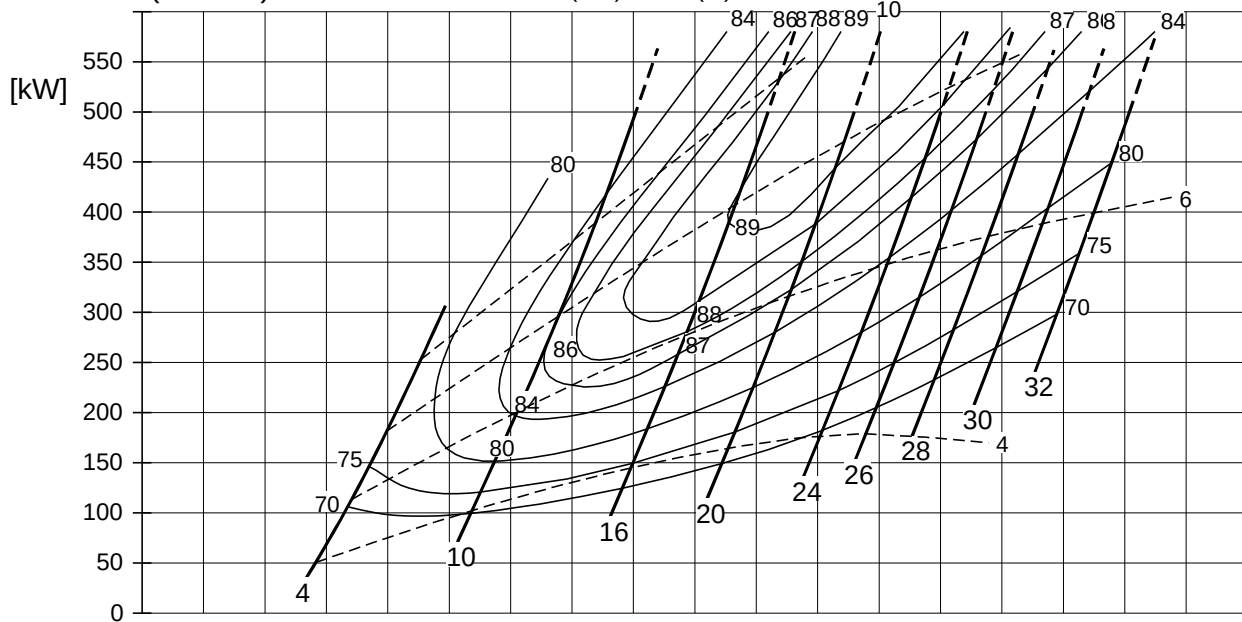
360-13

1: 2.000

97.7% - 97.4%

POWER (SHAFT)

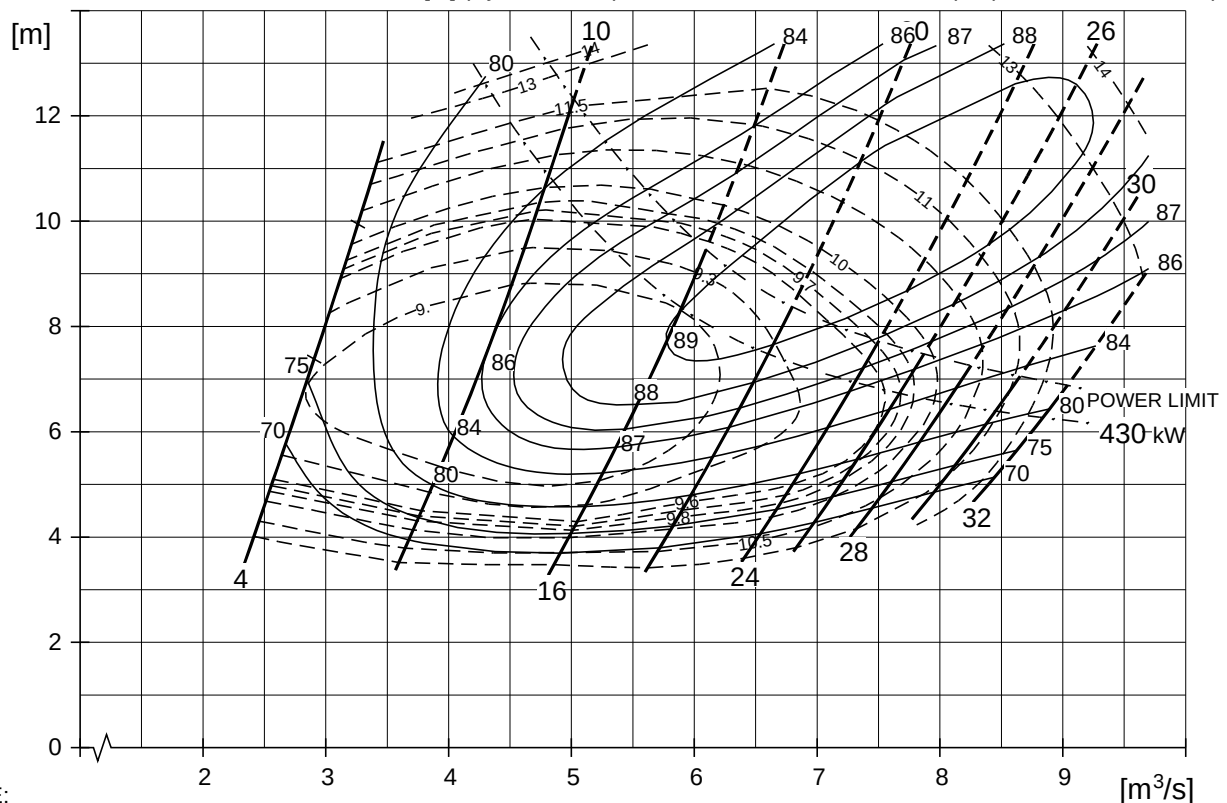
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

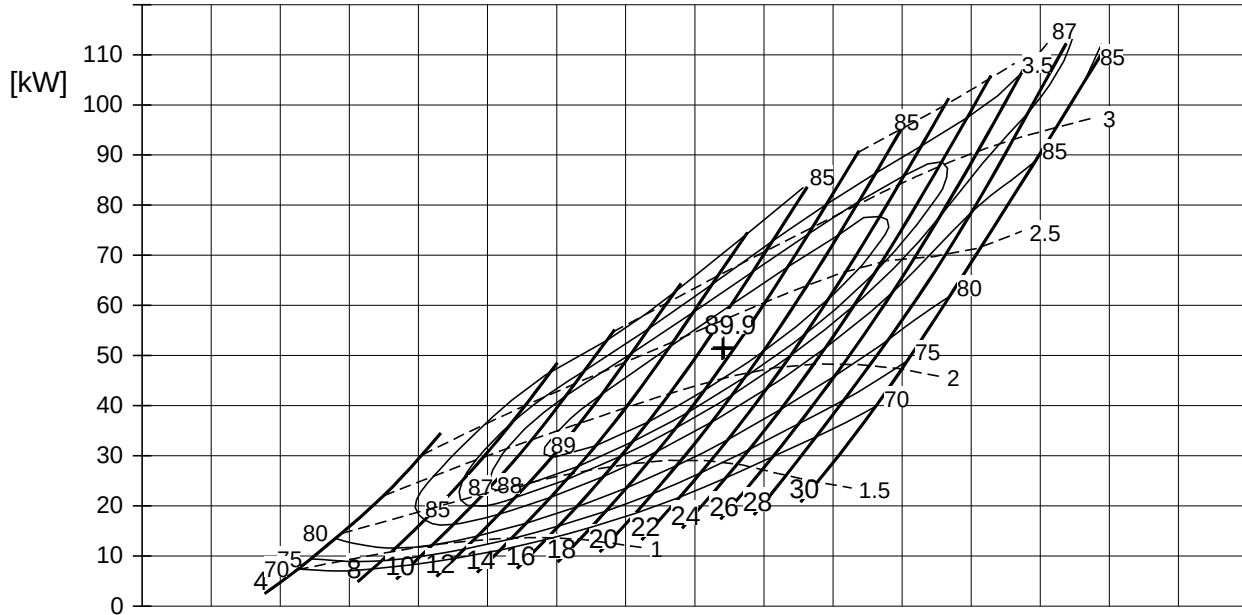
CURVE NO

53- 169C4E

DATE
2016-02-16ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
169 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
705
735GENERATOR
43-30-6BC
43-44-6BCPOLES
6
6GEN. POWER
110 kW
160GEAR TYPE
350-11
350-11GEAR RATIO
1: 6.000
1: 6.000GEAR EFFICIENCY (Load:1/1-3/4)
93.6% - 91.3%
95.6% - 94.1%

POWER (SHAFT)

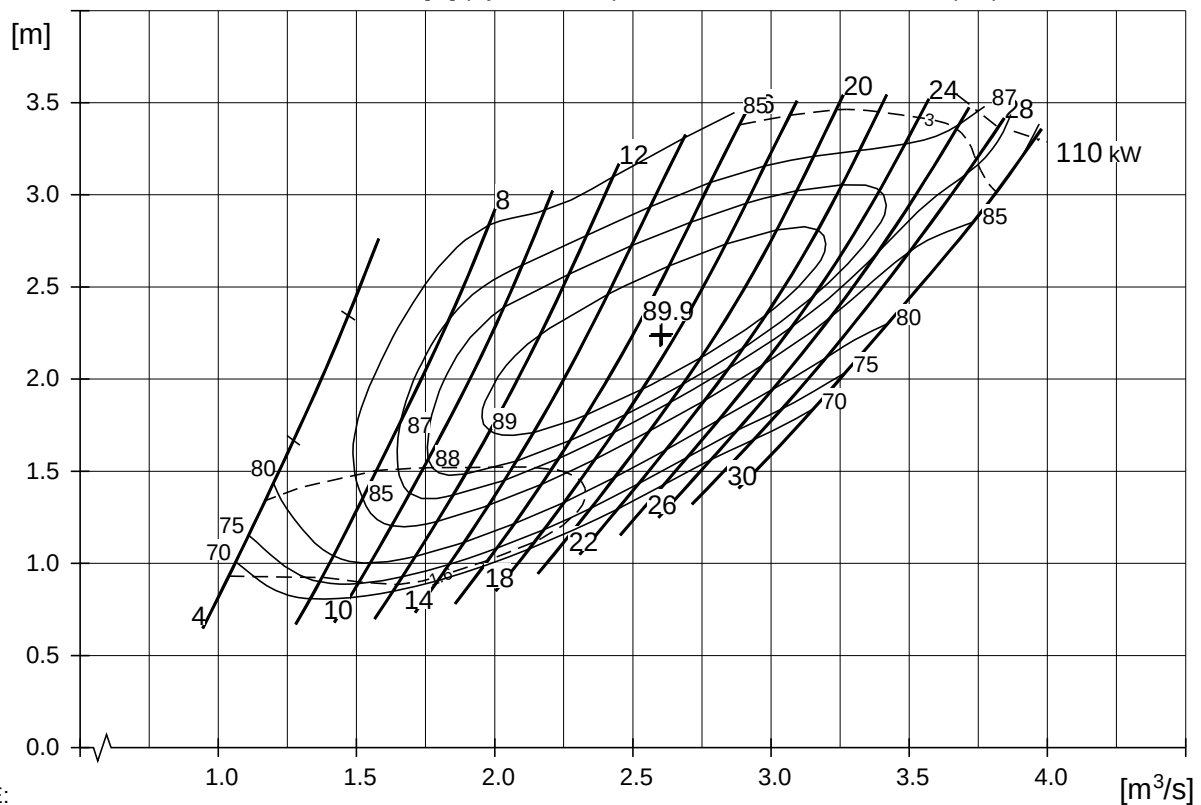
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

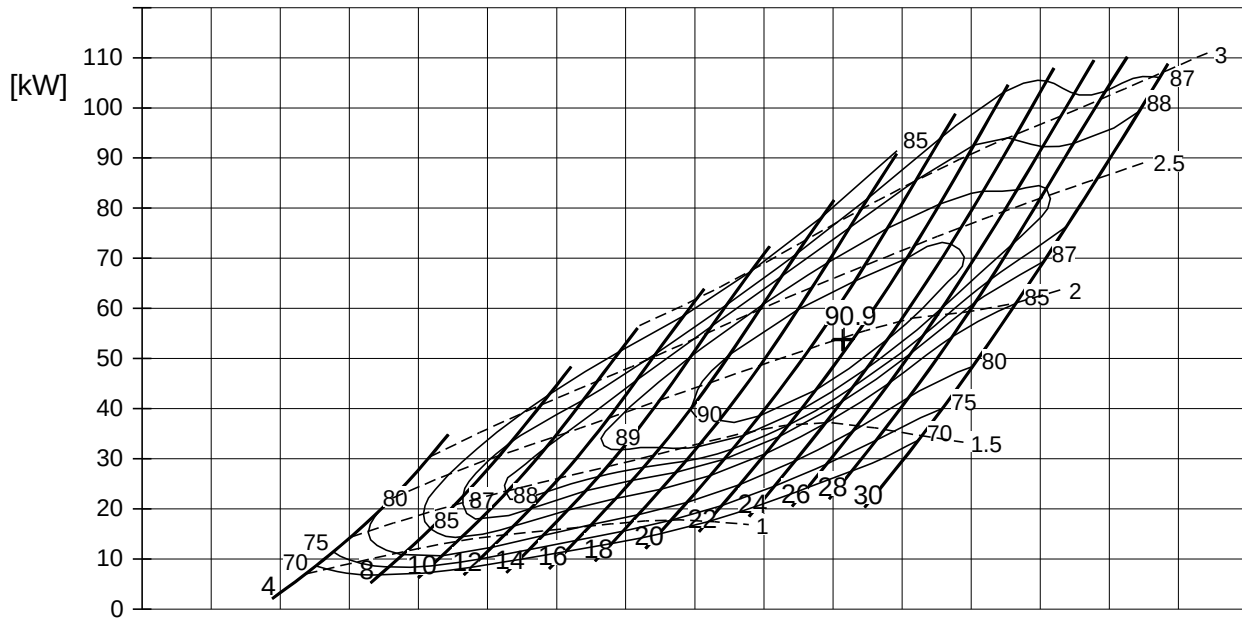
CURVE NO

53- 169C4E

DATE 2016-02-16	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 169 RPM			
IMPELLER/HUB DIAMETER 1200 / 550 mm	GUIDE VANE(S) 57 deg		NO. OF BLADES 4	AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 30 deg		
DRIVE UNIT 705	GENERATOR 43-30-6BC	POLES 6	GEN. POWER 110 kW	GEAR TYPE 350-11	GEAR RATIO 1: 6.000	GEAR EFFICIENCY (Load:1/1-3/4) 93.6% - 91.3%
735	43-44-6BC	6	160	350-11	1: 6.000	95.6% - 94.1%

POWER (SHAFT)

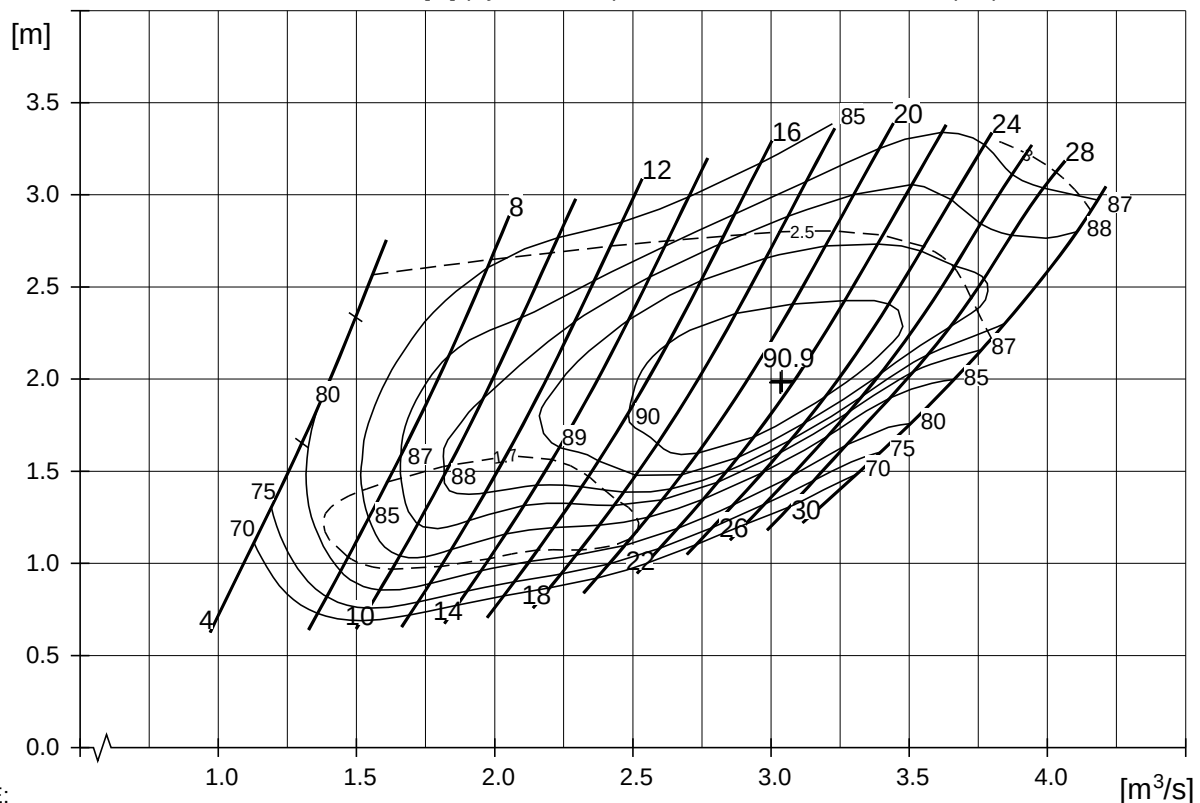
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

53- 169C4E

DATE
2016-02-16ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
169 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
705GENERATOR
43-30-6BCPOLES
6GEN. POWER
110 kWGEAR TYPE
350-11GEAR RATIO
1: 6.000GEAR EFFICIENCY (Load:1/1-3/4)
93.6% - 91.3%

735

43-44-6BC

6

160

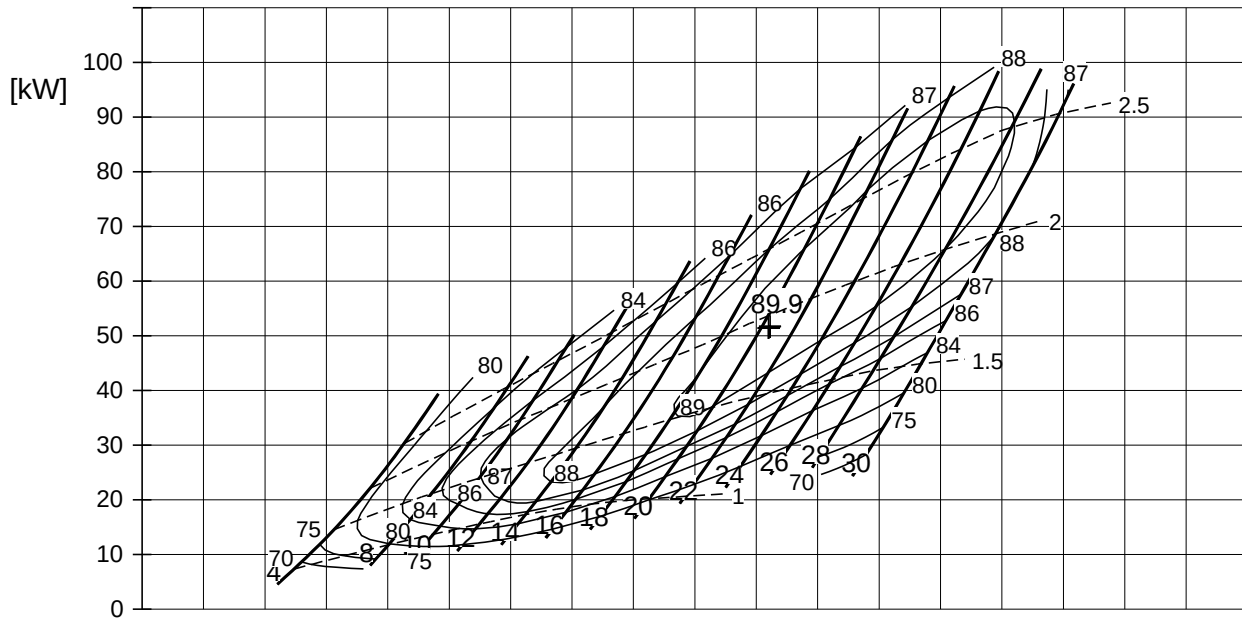
350-11

1: 6.000

95.6% - 94.1%

POWER (SHAFT)

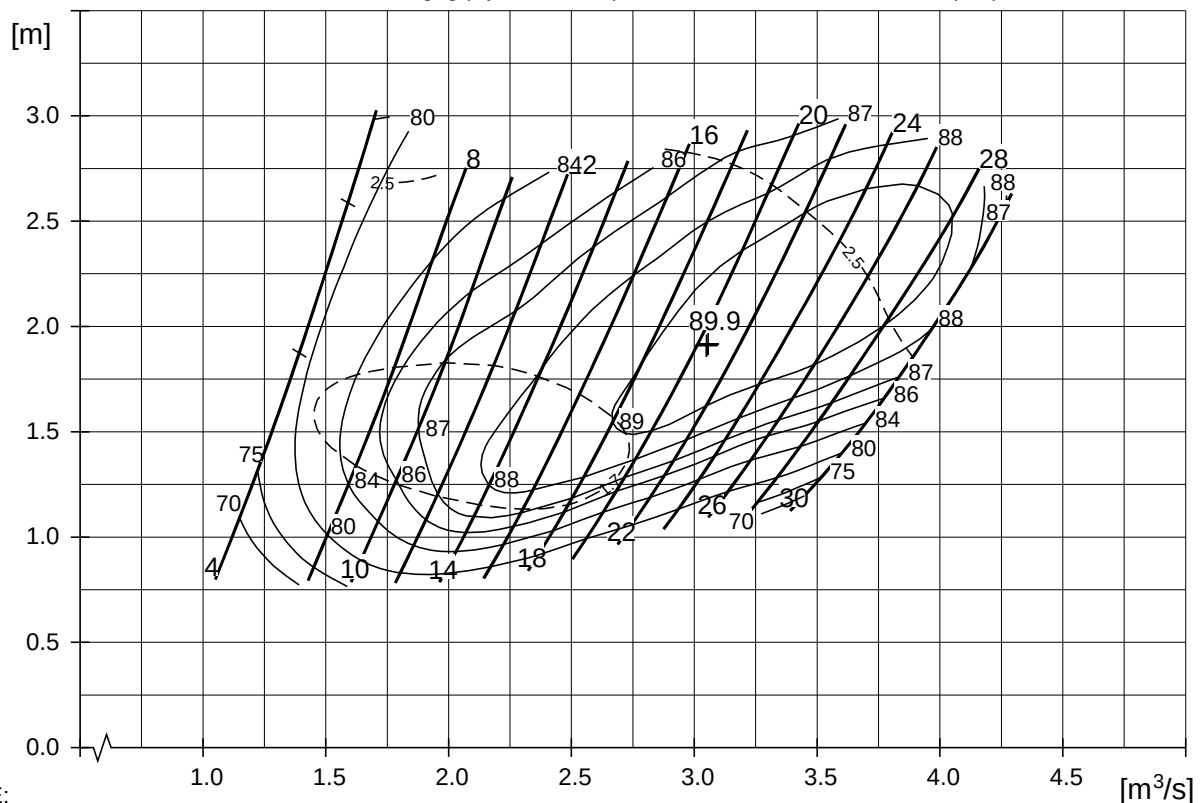
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY [%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

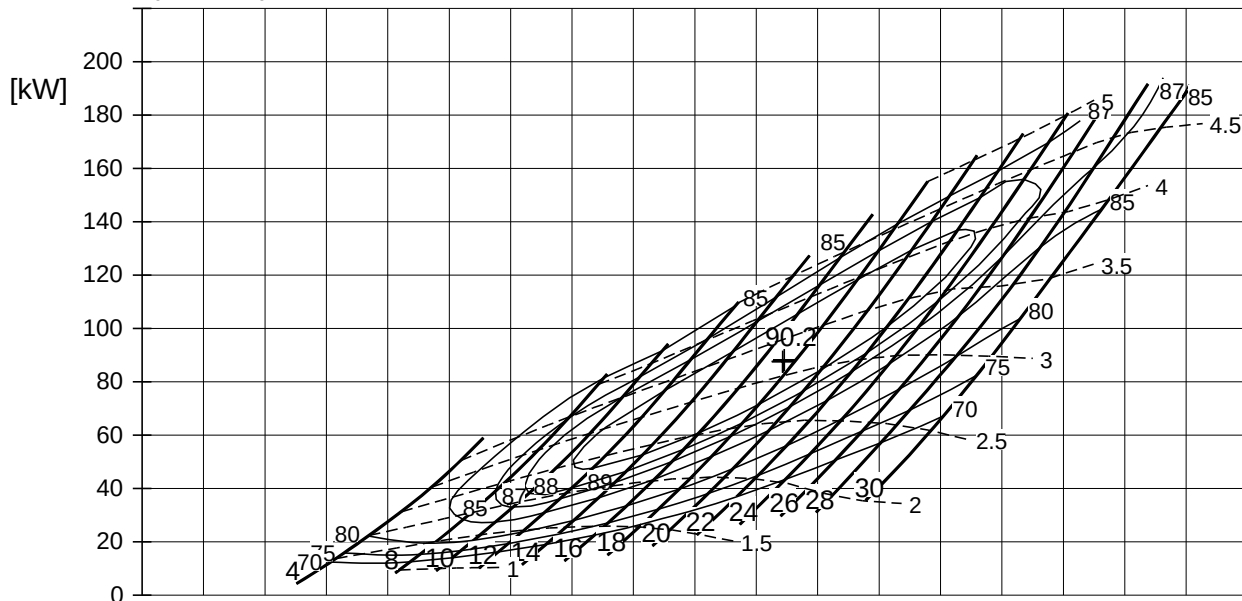
53- 202 C4E

DATE
2016-02-16ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
202 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-12	1: 5.000	94.5% - 93.2%
735	43-44-6BC	6	160	350-12	1: 5.000	95.7% - 94.8%
765	43-56-6BC	6	200	350-11	1: 5.000	95.8% - 94.4%

POWER (SHAFT)

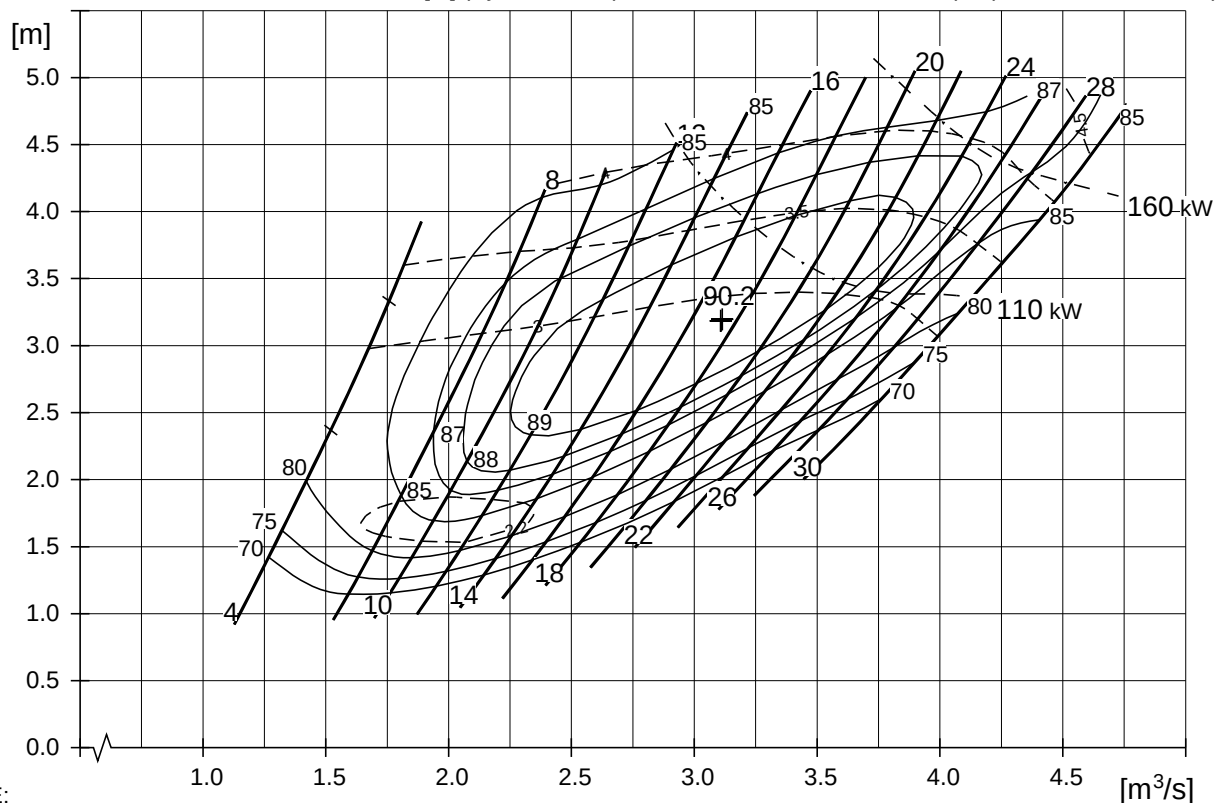
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

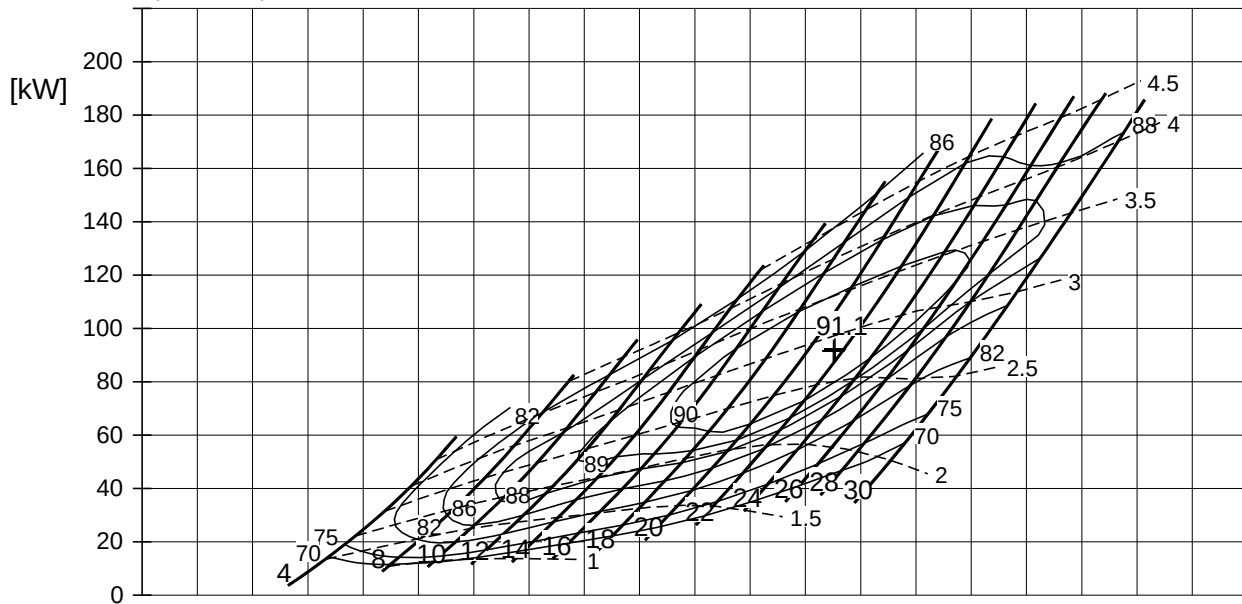
53- 202 C4E

DATE
2016-02-16ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
202 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-12	1: 5.000	94.5% - 93.2%
735	43-44-6BC	6	160	350-12	1: 5.000	95.7% - 94.8%
765	43-56-6BC	6	200	350-11	1: 5.000	95.8% - 94.4%

POWER (SHAFT)

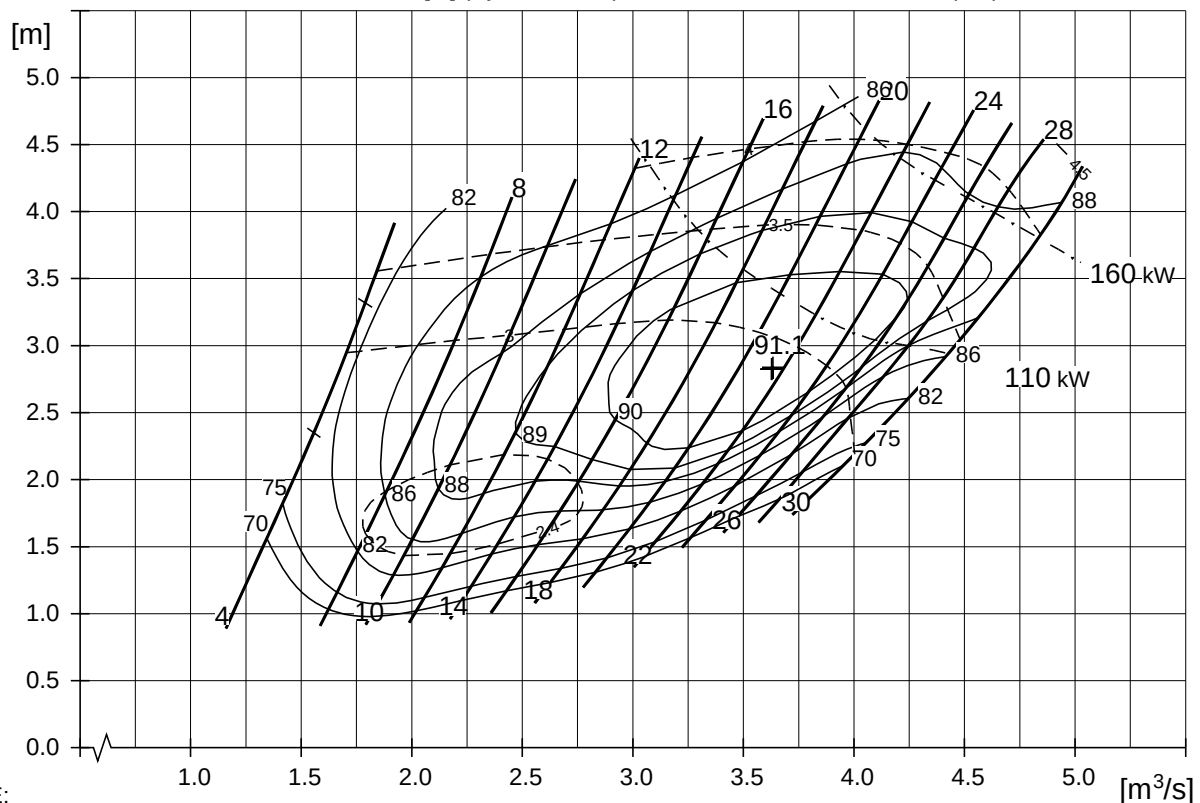
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

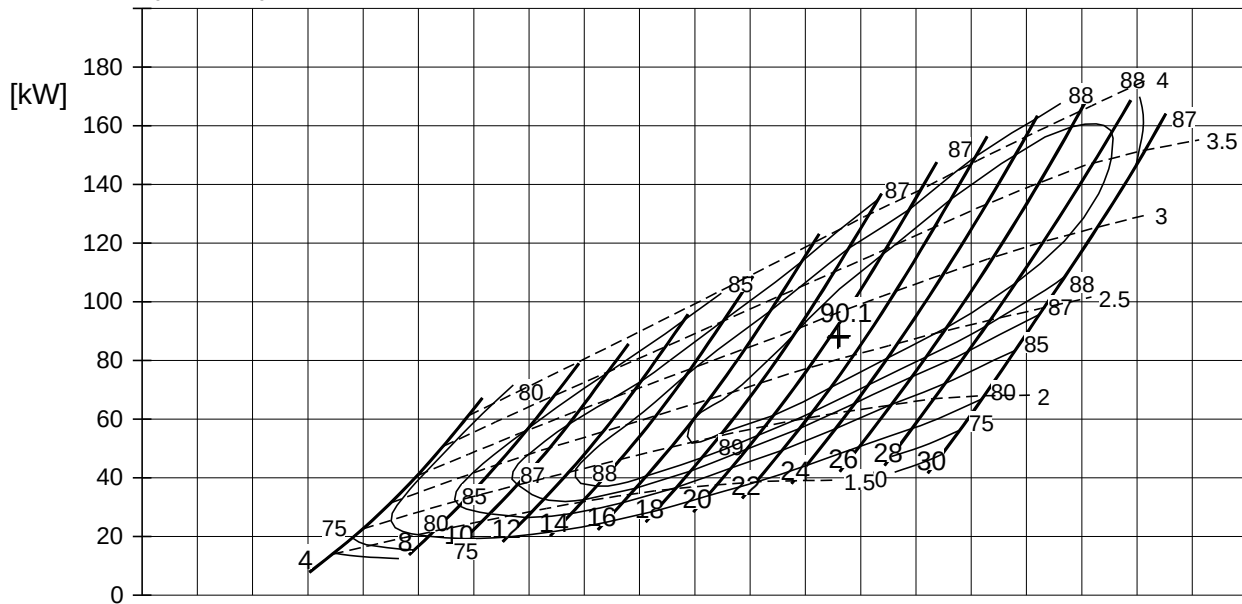
53- 202 C4E

DATE
2016-02-16ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
202 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-12	1: 5.000	94.5% - 93.2%
735	43-44-6BC	6	160	350-12	1: 5.000	95.7% - 94.8%
765	43-56-6BC	6	200	350-11	1: 5.000	95.8% - 94.4%

POWER (SHAFT)

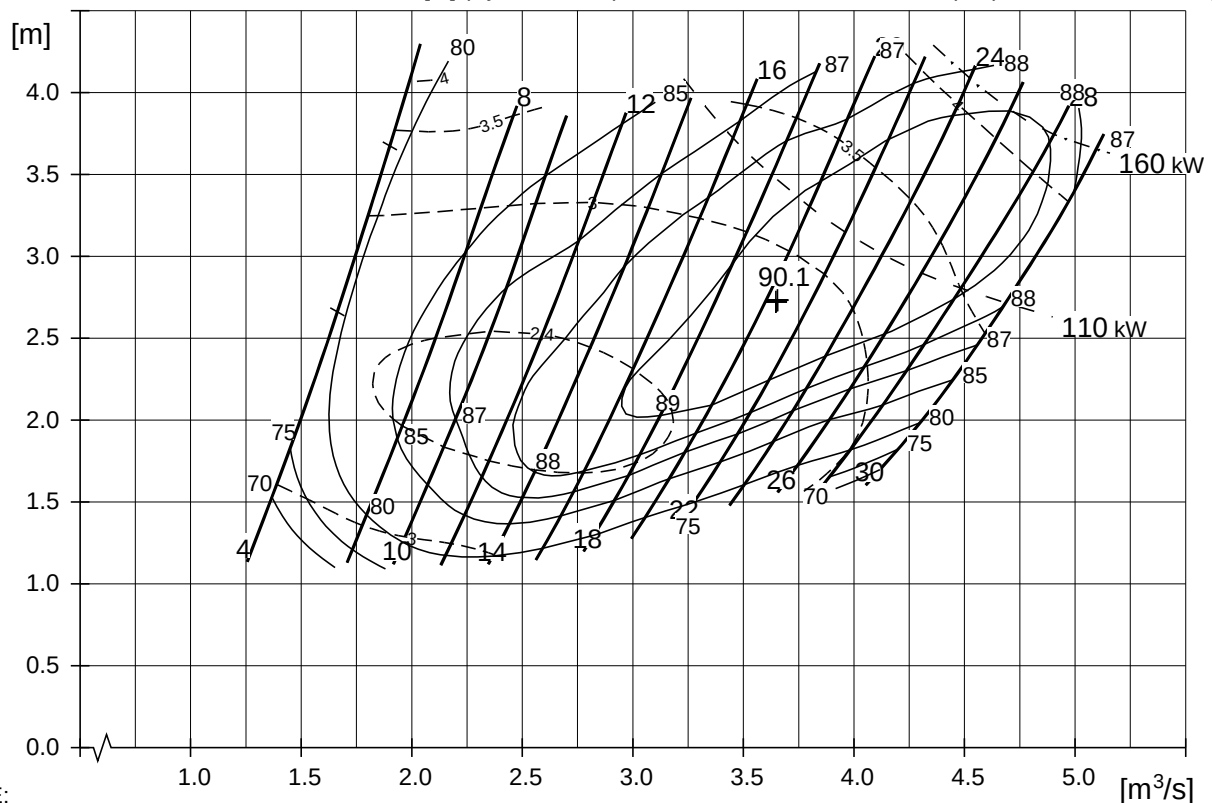
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

53- 202 C4E

DATE
2016-02-16ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
202 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 degDRIVE UNIT
705GENERATOR
43-30-6BCPOLES
6GEN. POWER
110 kWGEAR TYPE
350-12GEAR RATIO
1: 5.000GEAR EFFICIENCY (Load:1/1-3/4)
94.5% - 93.2%

735

43-44-6BC

6

160

350-12

1: 5.000

95.7% - 94.8%

765

43-56-6BC

6

200

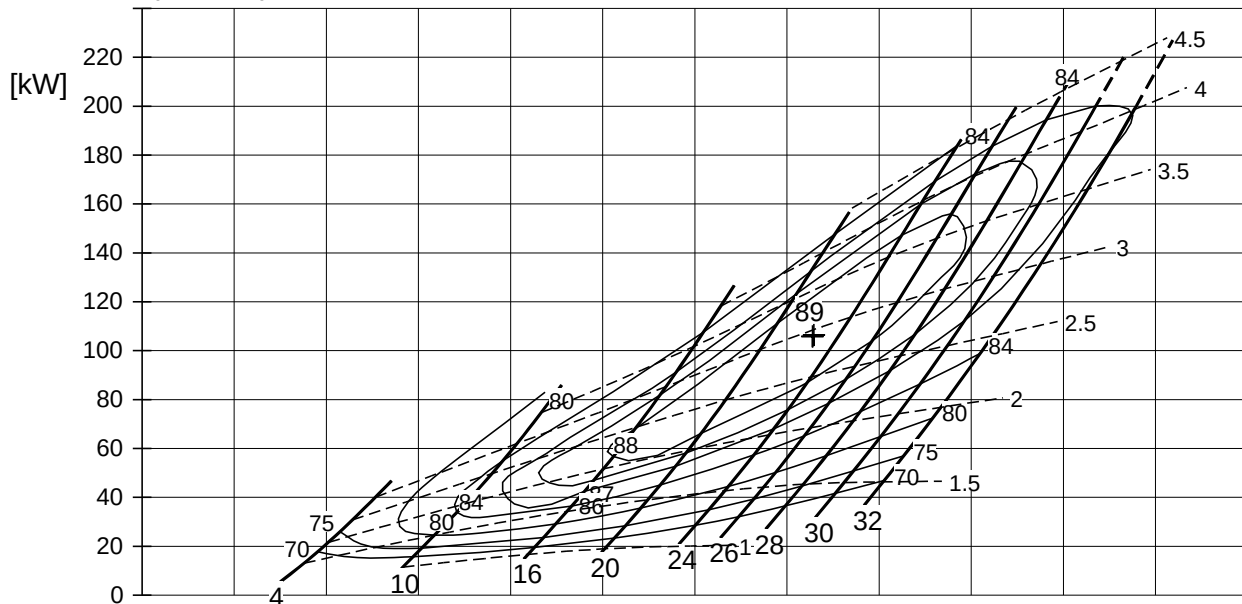
350-11

1: 5.000

95.8% - 94.4%

POWER (SHAFT)

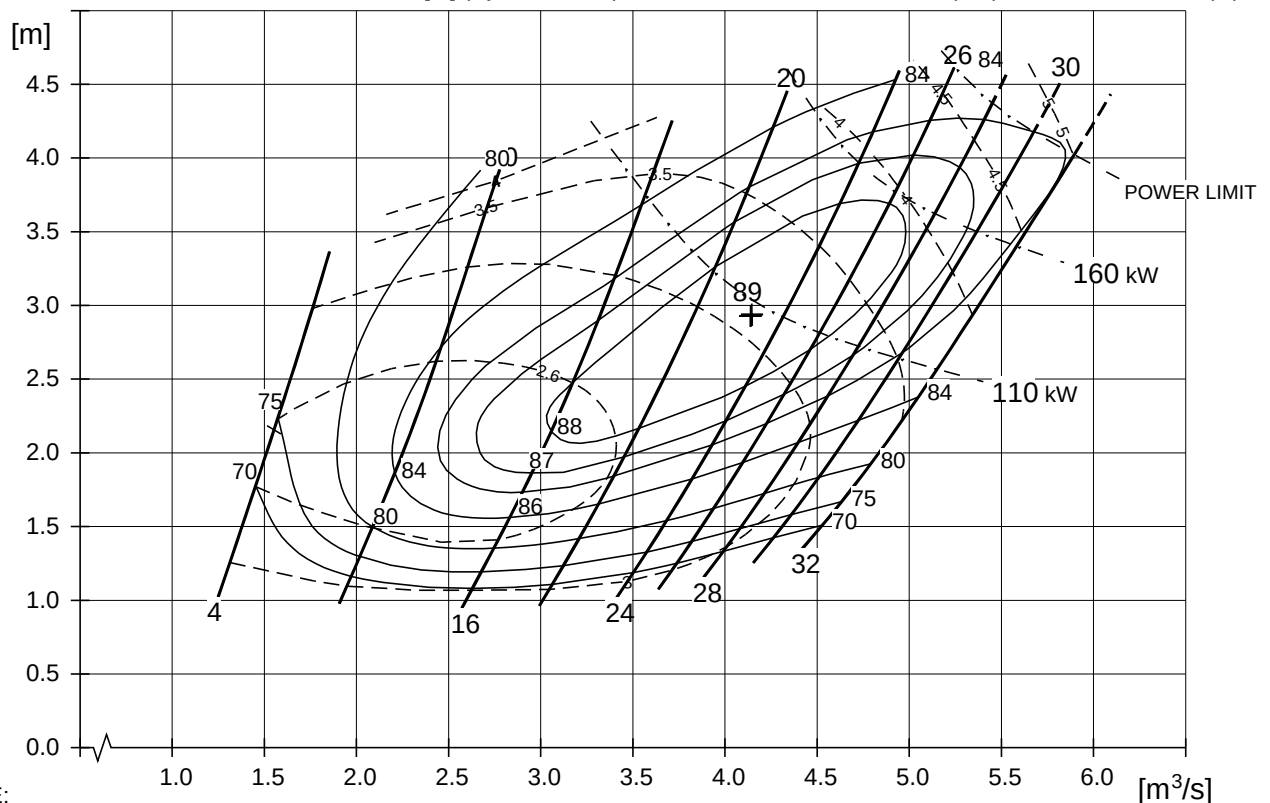
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

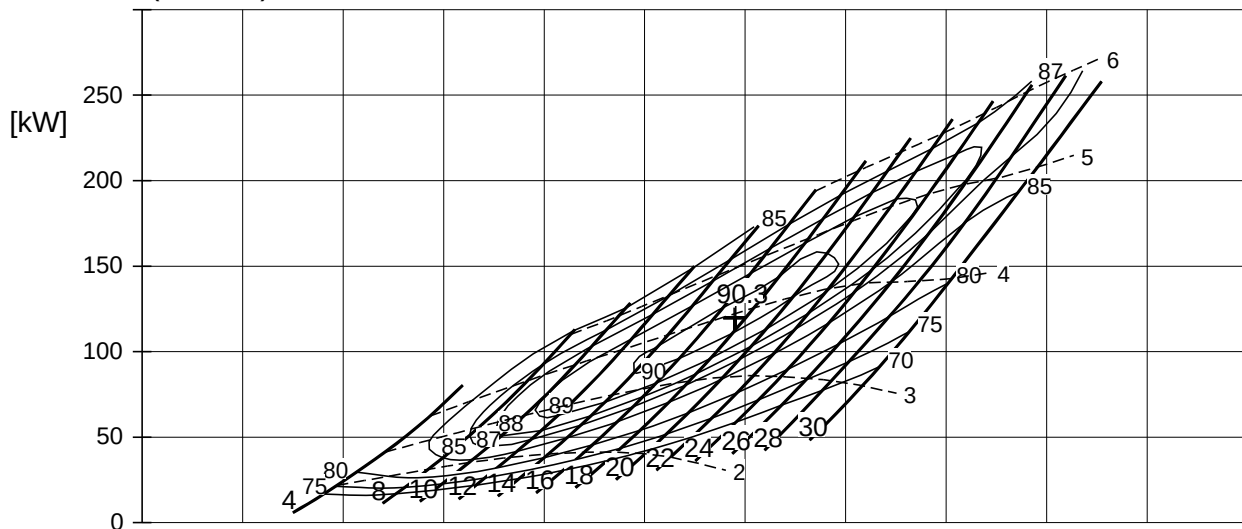
CURVE NO

53- 224 C4EDATE
2016-02-16ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
224 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-12	1: 4.500	94.2% - 92.8%
735	43-44-6BC	6	160	350-12	1: 4.500	95.5% - 94.5%
765	43-56-6BC	6	200	350-12	1: 4.500	96.1% - 95.3%
835	54-52-6AA	6	250	350-12	1: 4.500	96.6% - 95.9%
905	66-46-6AA	6	310	350-12	1: 4.500	97.0% - 96.4%
865	54-66-6AA	6	340	350-12	1: 4.500	97.1% - 96.6%
905	66-56-6AA	6	380	350-22	1: 4.500	97.3% - 96.8%
905	66-56-6AA	6	400	360-22	1: 4.500	97.4% - 96.9%

POWER (SHAFT)

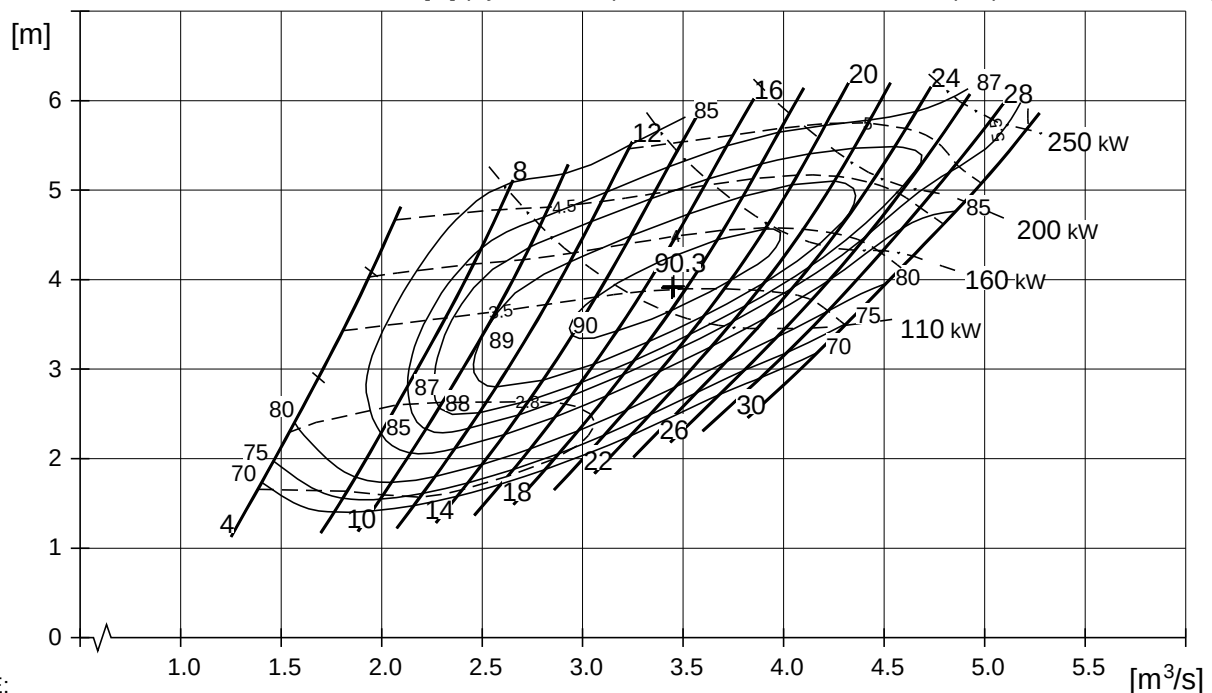
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

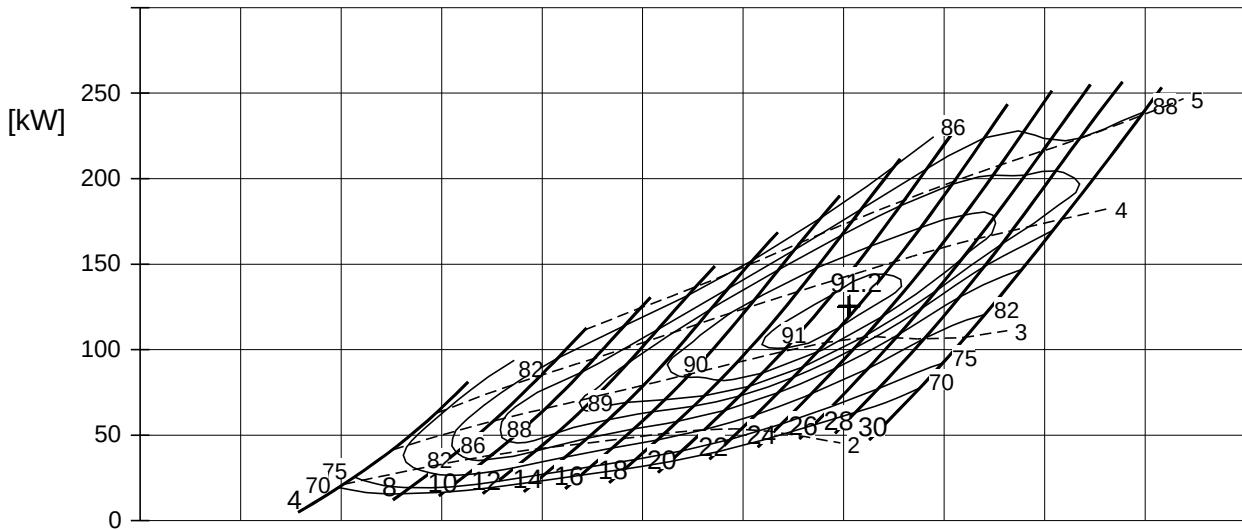
CURVE NO

53- 224 C4EDATE
2016-02-16ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
224 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-12	1: 4.500	94.2% - 92.8%
735	43-44-6BC	6	160	350-12	1: 4.500	95.5% - 94.5%
765	43-56-6BC	6	200	350-12	1: 4.500	96.1% - 95.3%
835	54-52-6AA	6	250	350-12	1: 4.500	96.6% - 95.9%
905	66-46-6AA	6	310	350-12	1: 4.500	97.0% - 96.4%
865	54-66-6AA	6	340	350-12	1: 4.500	97.1% - 96.6%
905	66-56-6AA	6	380	350-22	1: 4.500	97.3% - 96.8%
905	66-56-6AA	6	400	360-22	1: 4.500	97.4% - 96.9%

POWER (SHAFT)

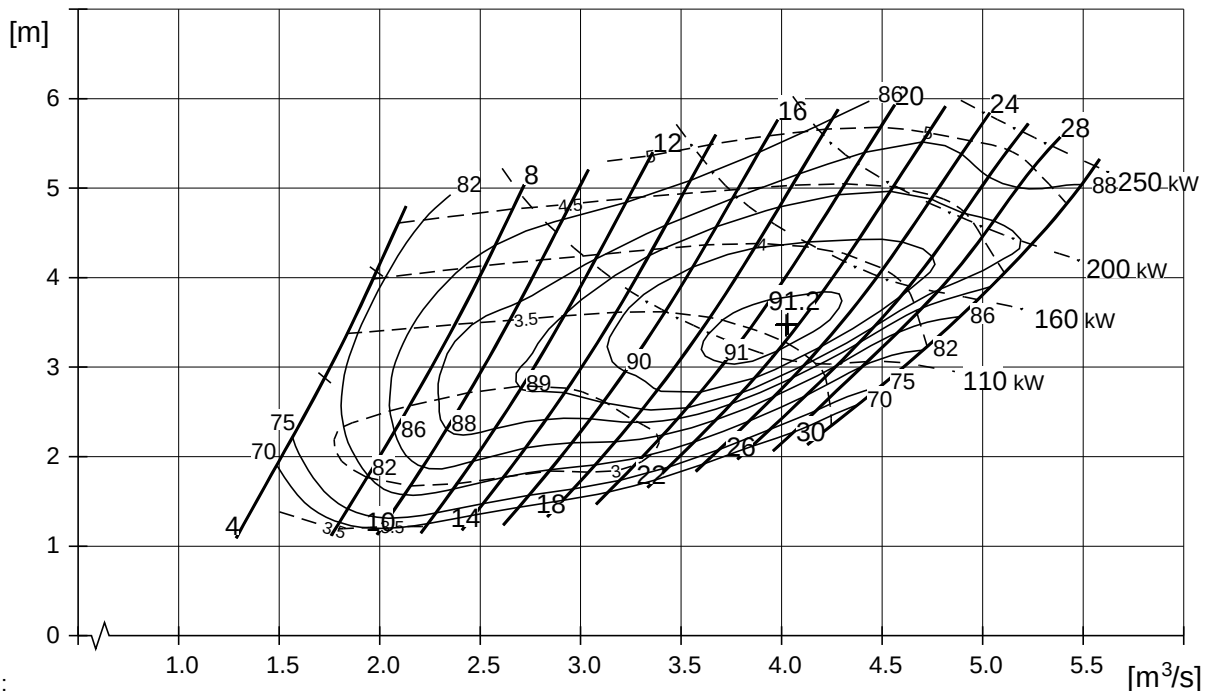
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

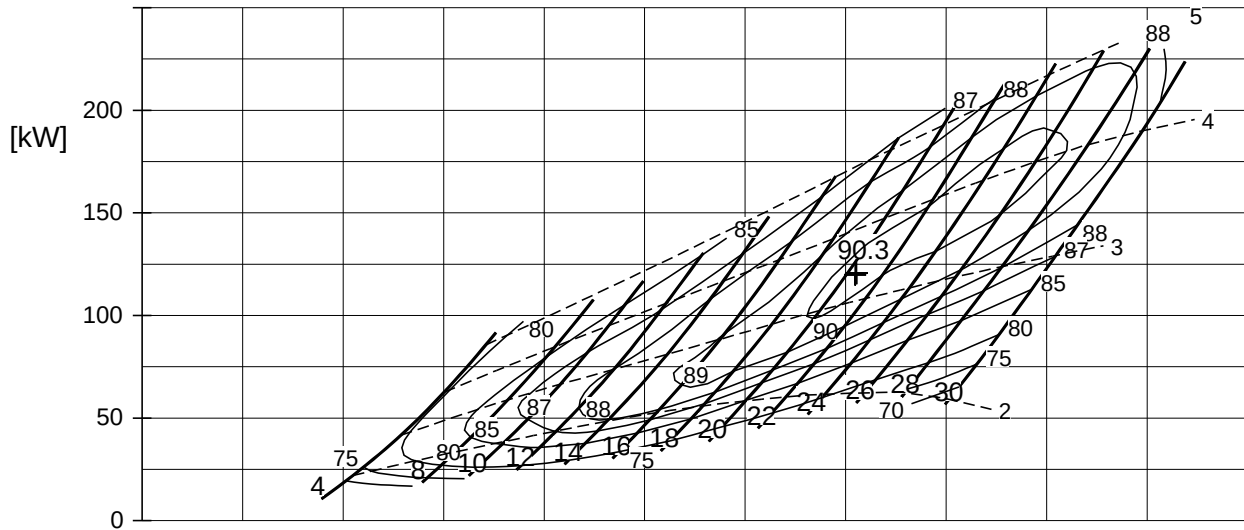
CURVE NO

53- 224 C4EDATE
2016-02-16ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
224 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-12	1: 4.500	94.2% - 92.8%
735	43-44-6BC	6	160	350-12	1: 4.500	95.5% - 94.5%
765	43-56-6BC	6	200	350-12	1: 4.500	96.1% - 95.3%
835	54-52-6AA	6	250	350-12	1: 4.500	96.6% - 95.9%
905	66-46-6AA	6	310	350-12	1: 4.500	97.0% - 96.4%
865	54-66-6AA	6	340	350-12	1: 4.500	97.1% - 96.6%
905	66-56-6AA	6	380	350-22	1: 4.500	97.3% - 96.8%
905	66-56-6AA	6	400	360-22	1: 4.500	97.4% - 96.9%

POWER (SHAFT)

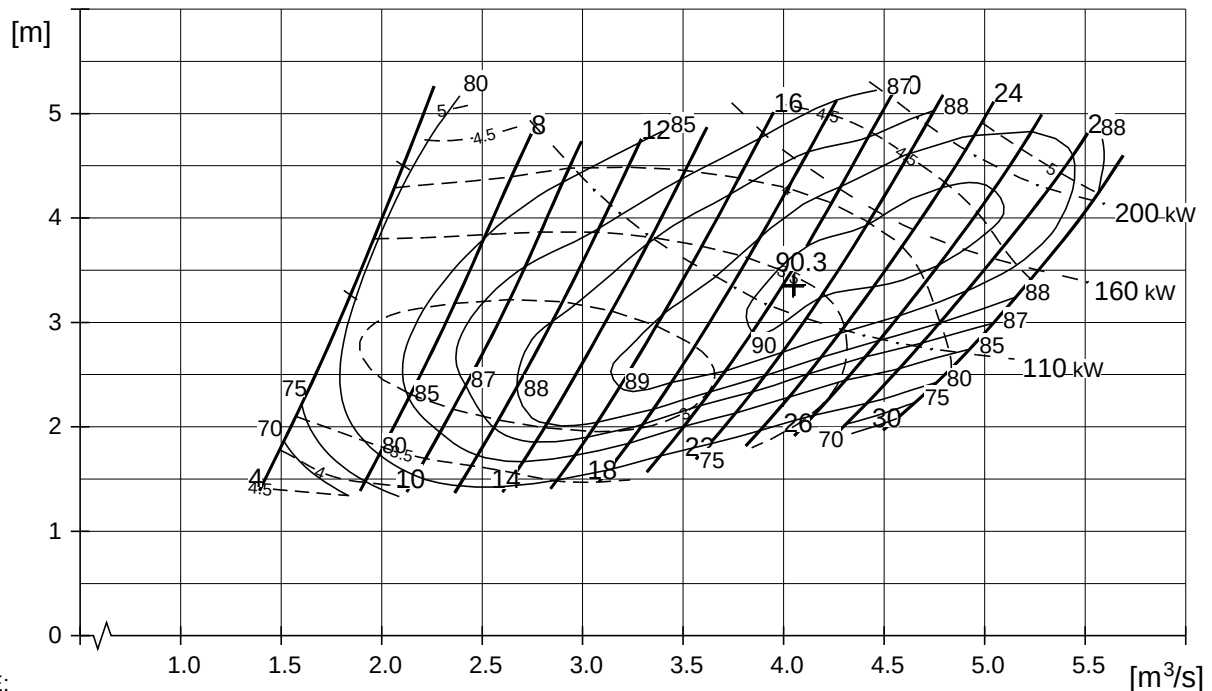
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

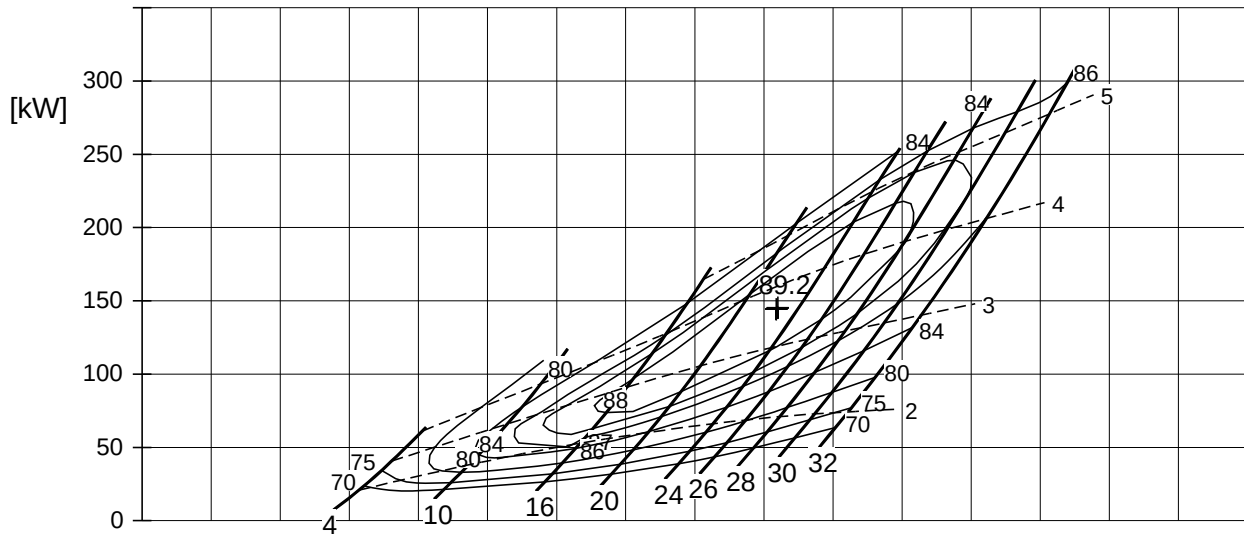
53- 224 C4E

DATE
2016-02-16ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
224 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
705	43-30-6BC	6	110 kW	350-12	1: 4.500	94.2% - 92.8%
735	43-44-6BC	6	160	350-12	1: 4.500	95.5% - 94.5%
765	43-56-6BC	6	200	350-12	1: 4.500	96.1% - 95.3%
835	54-52-6AA	6	250	350-12	1: 4.500	96.6% - 95.9%
905	66-46-6AA	6	310	350-12	1: 4.500	97.0% - 96.4%
865	54-66-6AA	6	340	350-12	1: 4.500	97.1% - 96.6%
905	66-56-6AA	6	380	350-22	1: 4.500	97.3% - 96.8%
905	66-56-6AA	6	400	360-22	1: 4.500	97.4% - 96.9%

POWER (SHAFT)

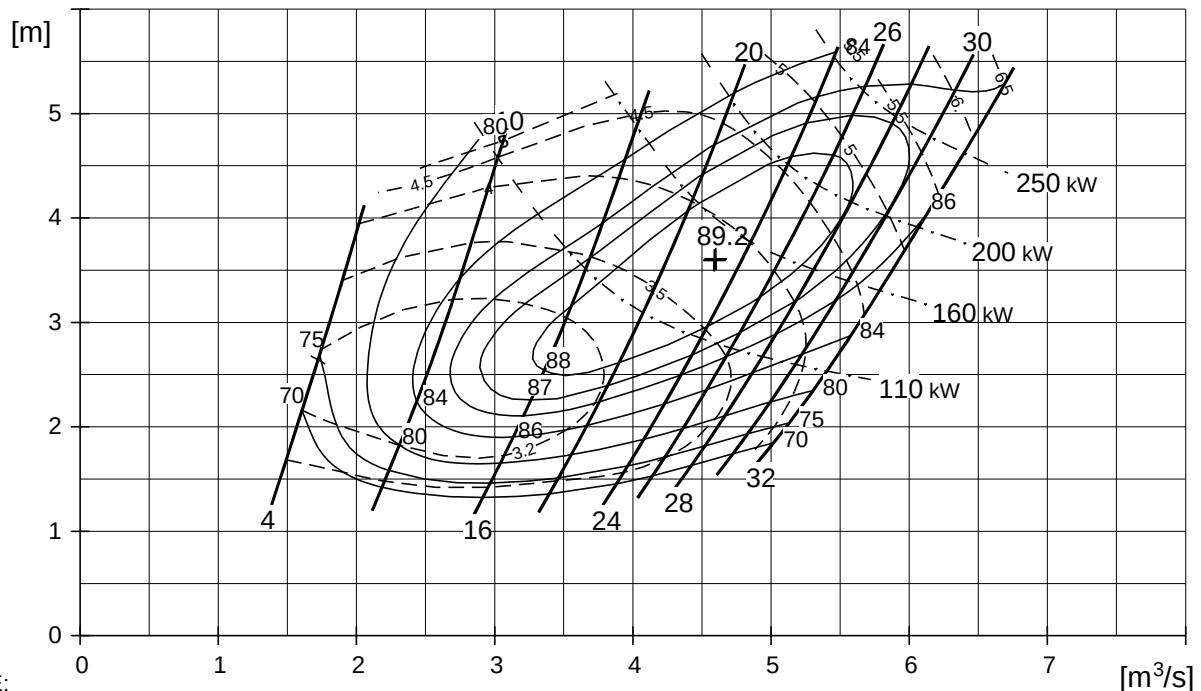
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

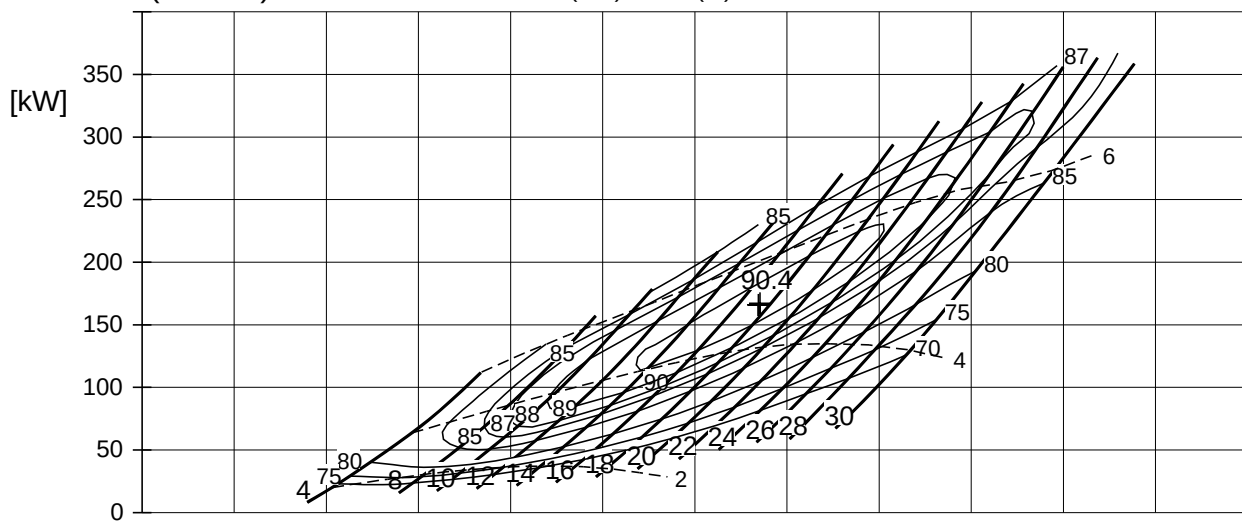
53- 250 C4E

DATE
2016-02-16ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
250 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-6BC	6	160 kW	350-12	1: 4.034	95.2% - 94.1%
765	43-56-6BC	6	200	350-12	1: 4.034	95.9% - 95.0%
835	54-52-6AA	6	250	350-12	1: 4.034	96.4% - 95.7%
905	66-46-6AA	6	310	350-12	1: 4.034	96.8% - 96.2%
865	54-66-6AA	6	340	350-12	1: 4.034	97.0% - 96.4%
905	66-56-6AA	6	400	350-22	1: 4.034	97.2% - 96.8%
935	66-66-6AA	6	470	350-22	1: 4.034	97.4% - 97.0%
935	66-66-6AA	6	500	360-22	1: 4.034	97.5% - 97.1%
935	66-76-6AA	6	600	360-22	1: 4.034	97.6% - 97.3%

POWER (SHAFT)

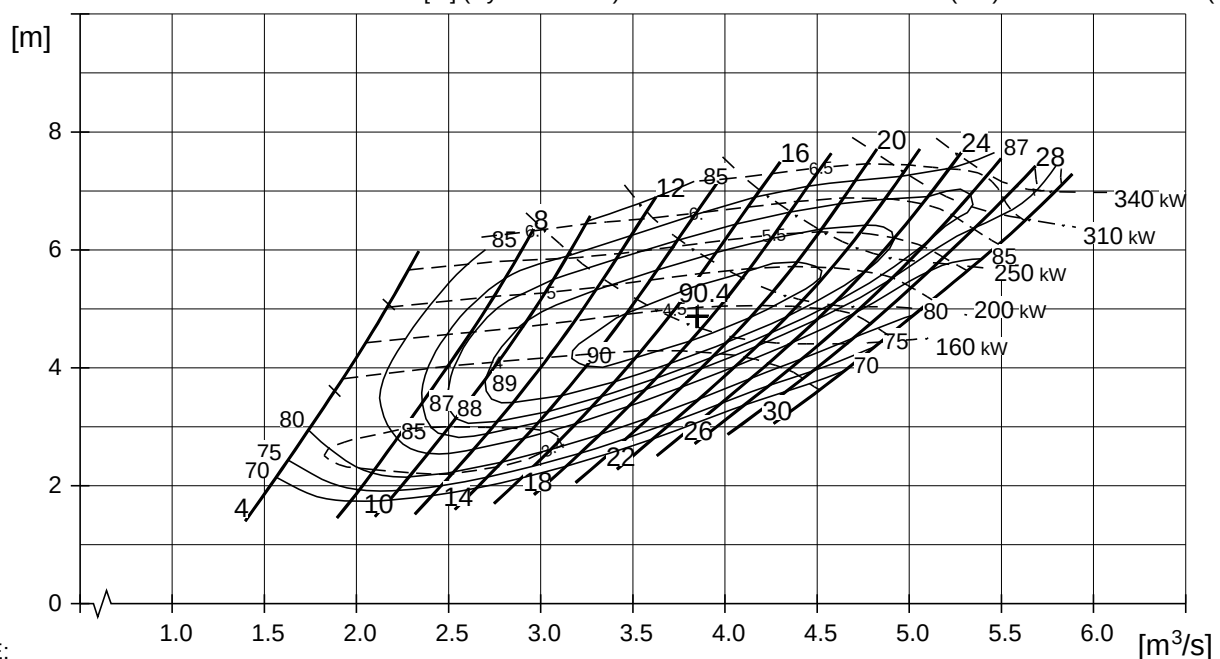
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

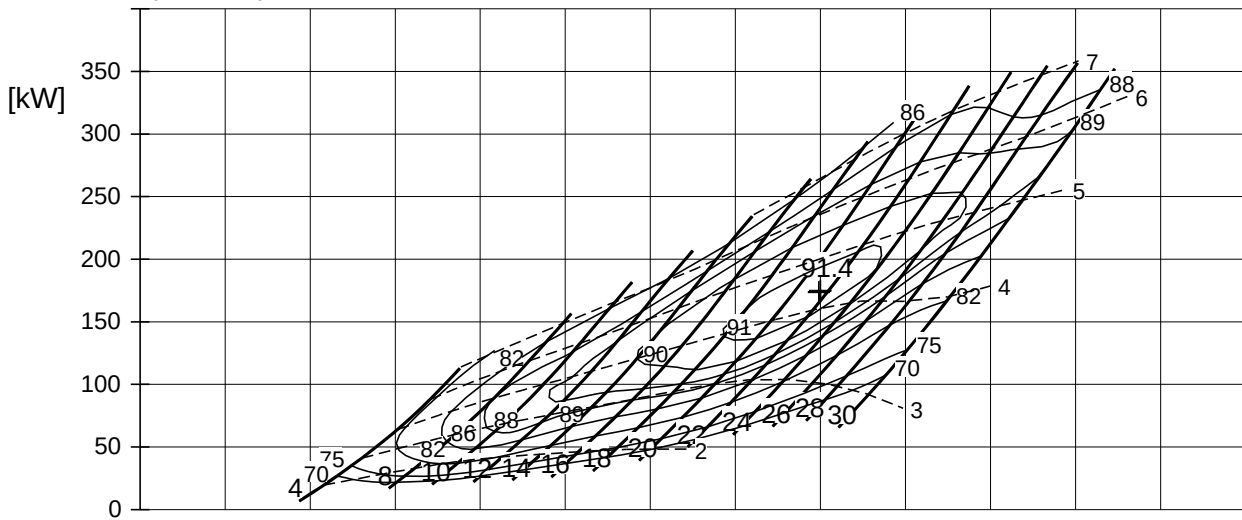
CURVE NO

53- 250 C4E

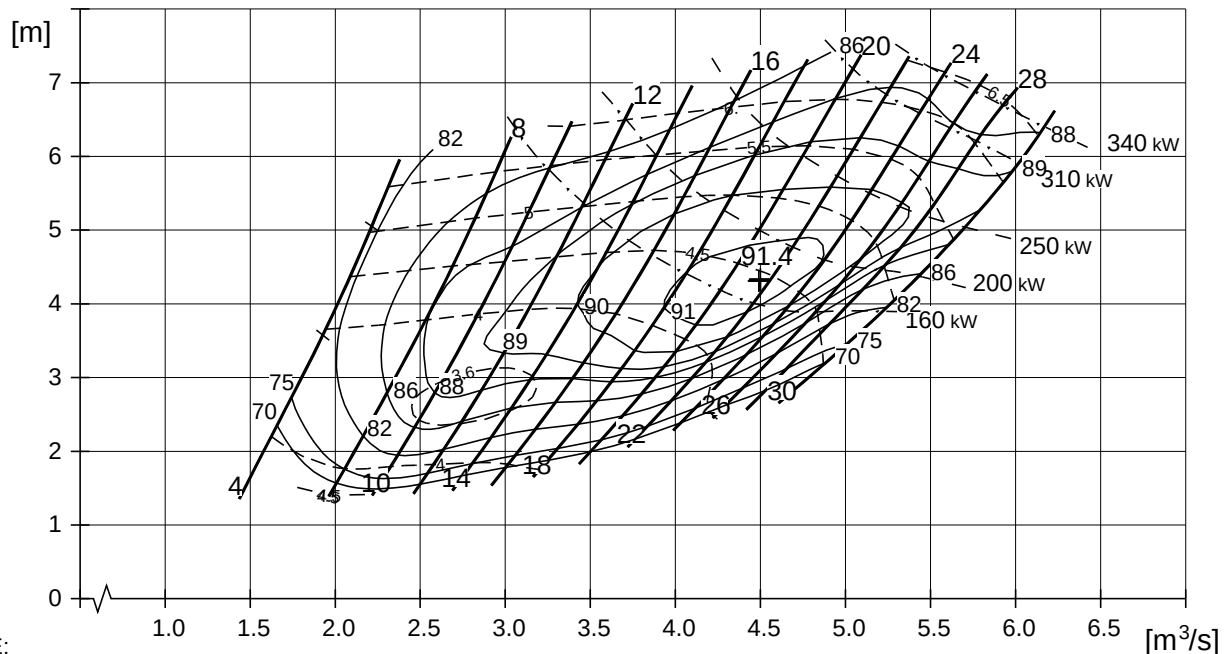
DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
250 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-6BC	6	160 kW	350-12	1: 4.034	95.2% - 94.1%
765	43-56-6BC	6	200	350-12	1: 4.034	95.9% - 95.0%
835	54-52-6AA	6	250	350-12	1: 4.034	96.4% - 95.7%
905	66-46-6AA	6	310	350-12	1: 4.034	96.8% - 96.2%
865	54-66-6AA	6	340	350-12	1: 4.034	97.0% - 96.4%
905	66-56-6AA	6	400	350-22	1: 4.034	97.2% - 96.8%
935	66-66-6AA	6	470	350-22	1: 4.034	97.4% - 97.0%
935	66-66-6AA	6	500	360-22	1: 4.034	97.5% - 97.1%
935	66-76-6AA	6	600	360-22	1: 4.034	97.6% - 97.3%

POWER (SHAFT) ISO-CURVES : (---) HEAD(m)



HEAD ISO-CURVES : TURBINE EFFICIENCY[%] (Hydraulic-End) (---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

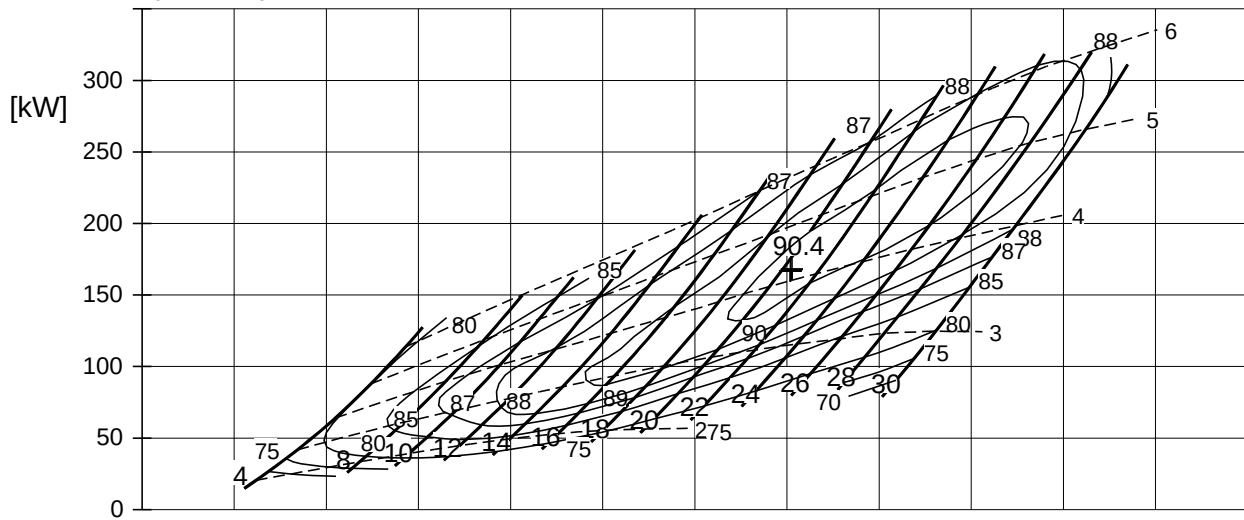
53- 250 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
250 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-6BC	6	160 kW	350-12	1: 4.034	95.2% - 94.1%
765	43-56-6BC	6	200	350-12	1: 4.034	95.9% - 95.0%
835	54-52-6AA	6	250	350-12	1: 4.034	96.4% - 95.7%
905	66-46-6AA	6	310	350-12	1: 4.034	96.8% - 96.2%
865	54-66-6AA	6	340	350-12	1: 4.034	97.0% - 96.4%
905	66-56-6AA	6	400	350-22	1: 4.034	97.2% - 96.8%
935	66-66-6AA	6	470	350-22	1: 4.034	97.4% - 97.0%
935	66-66-6AA	6	500	360-22	1: 4.034	97.5% - 97.1%
935	66-76-6AA	6	600	360-22	1: 4.034	97.6% - 97.3%

POWER (SHAFT)

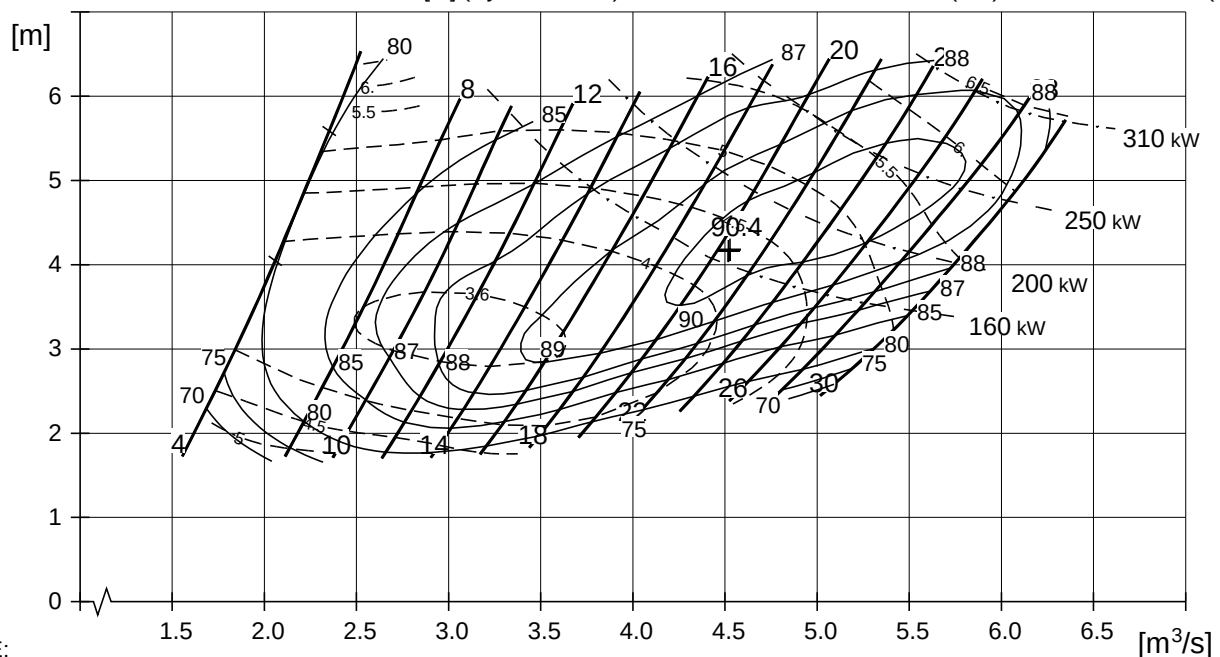
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

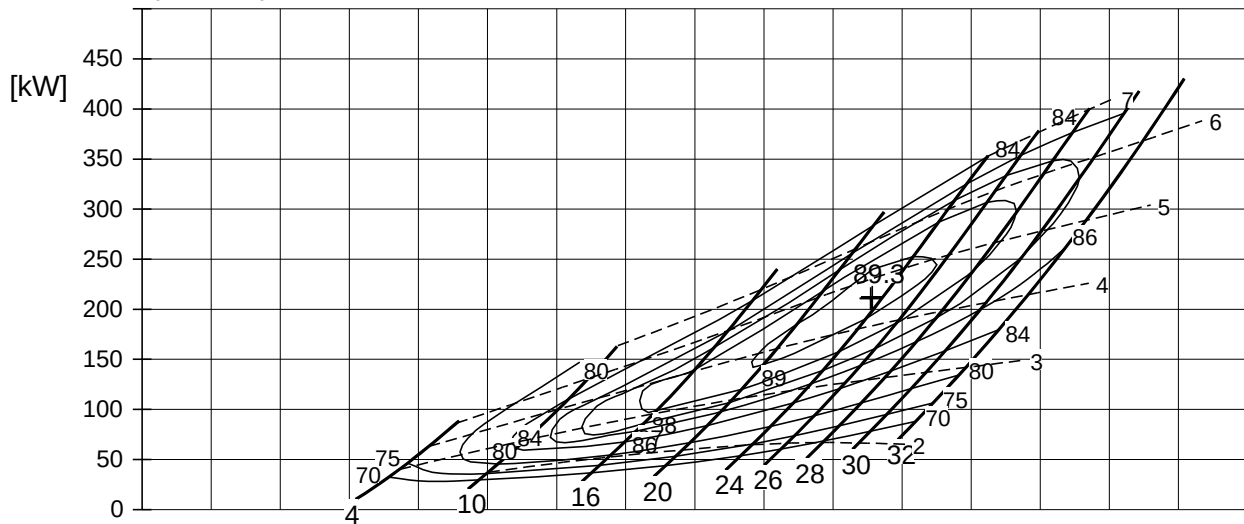
CURVE NO

53- 250 C4E

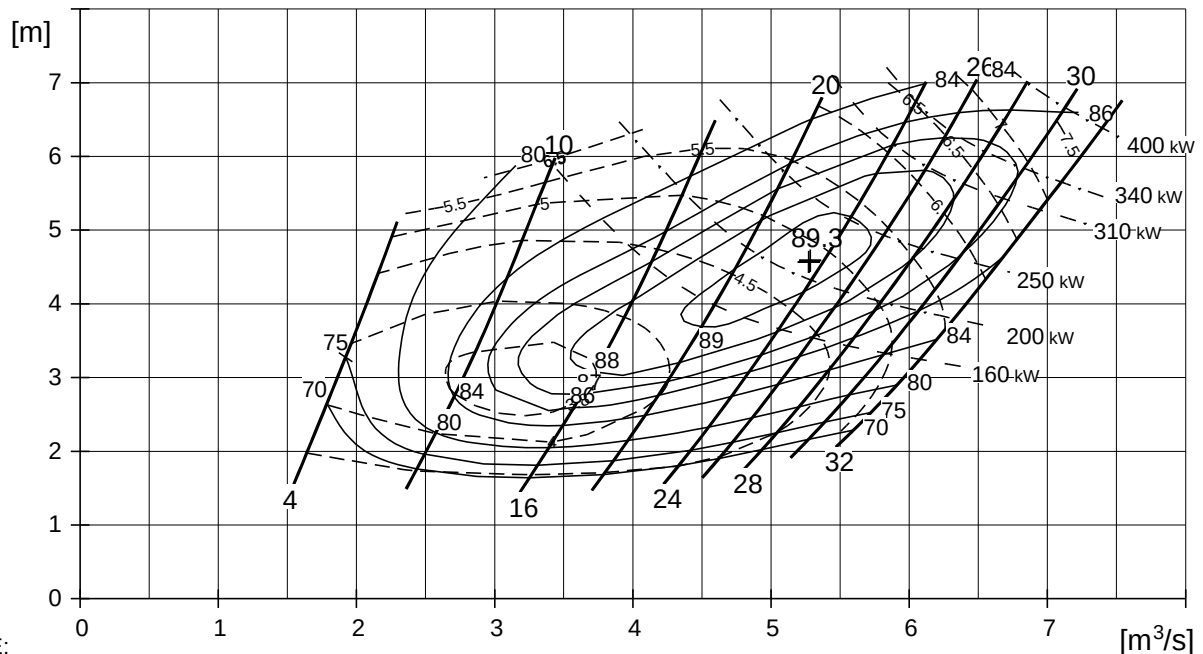
DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
250 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-6BC	6	160 kW	350-12	1: 4.034	95.2% - 94.1%
765	43-56-6BC	6	200	350-12	1: 4.034	95.9% - 95.0%
835	54-52-6AA	6	250	350-12	1: 4.034	96.4% - 95.7%
905	66-46-6AA	6	310	350-12	1: 4.034	96.8% - 96.2%
865	54-66-6AA	6	340	350-12	1: 4.034	97.0% - 96.4%
905	66-56-6AA	6	400	350-22	1: 4.034	97.2% - 96.8%
935	66-66-6AA	6	470	350-22	1: 4.034	97.4% - 97.0%
935	66-66-6AA	6	500	360-22	1: 4.034	97.5% - 97.1%
935	66-76-6AA	6	600	360-22	1: 4.034	97.6% - 97.3%

POWER (SHAFT) ISO-CURVES : (---) HEAD(m)



HEAD ISO-CURVES : TURBINE EFFICIENCY[%] (Hydraulic-End) (---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

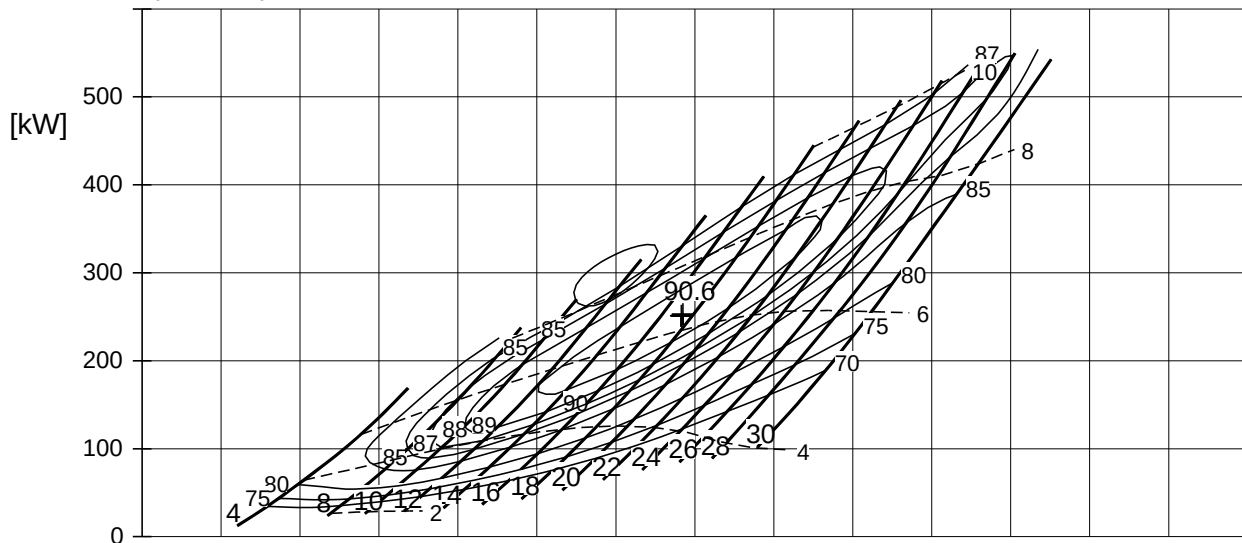
53- 287 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
287 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-6BC	6	200 kW	350-12	1: 3.500	95.5% - 94.6%
835	54-52-6AA	6	250	350-12	1: 3.500	96.1% - 95.3%
905	66-46-6AA	6	310	350-12	1: 3.500	96.6% - 95.9%
865	54-66-6AA	6	340	350-12	1: 3.500	96.7% - 96.2%
905	66-56-6AA	6	400	350-12	1: 3.500	97.0% - 96.5%
935	66-66-6AA	6	500	360-22	1: 3.500	97.3% - 96.9%
935	66-76-6AA	6	600	360-22	1: 3.500	97.4% - 97.1%

POWER (SHAFT)

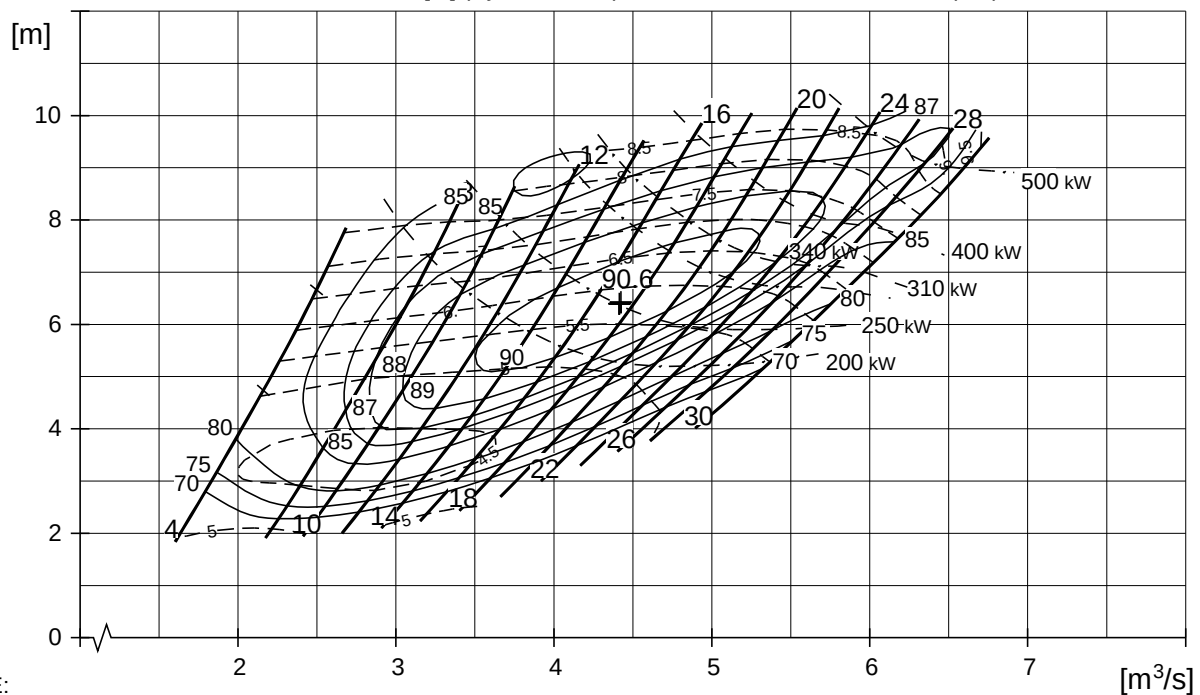
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

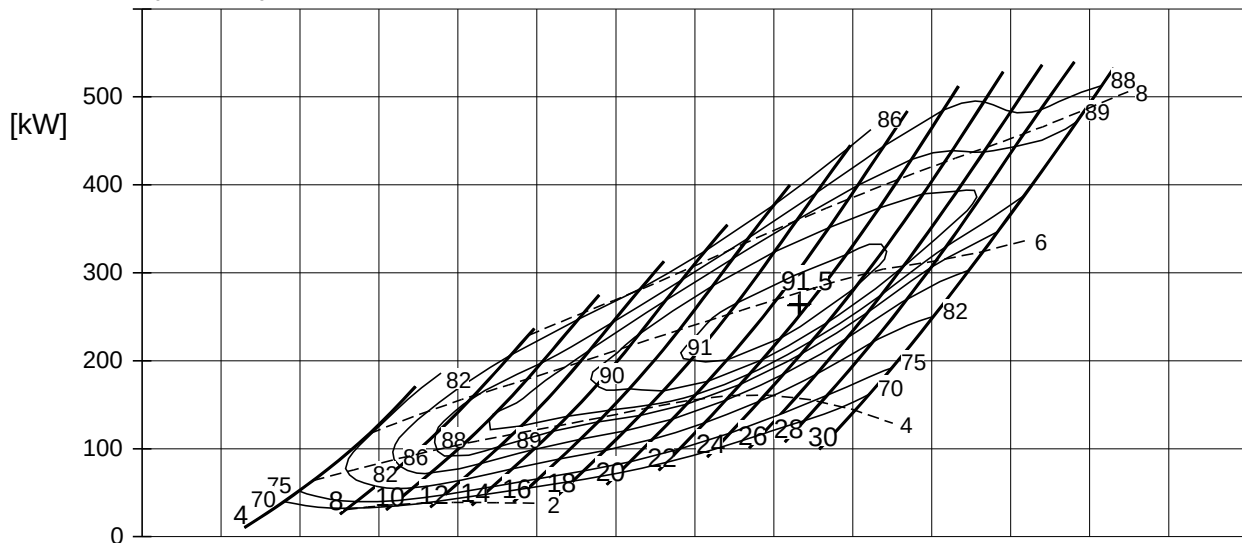
53- 287 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
287 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-6BC	6	200 kW	350-12	1: 3.500	95.5% - 94.6%
835	54-52-6AA	6	250	350-12	1: 3.500	96.1% - 95.3%
905	66-46-6AA	6	310	350-12	1: 3.500	96.6% - 95.9%
865	54-66-6AA	6	340	350-12	1: 3.500	96.7% - 96.2%
905	66-56-6AA	6	400	350-12	1: 3.500	97.0% - 96.5%
935	66-66-6AA	6	500	360-22	1: 3.500	97.3% - 96.9%
935	66-76-6AA	6	600	360-22	1: 3.500	97.4% - 97.1%

POWER (SHAFT)

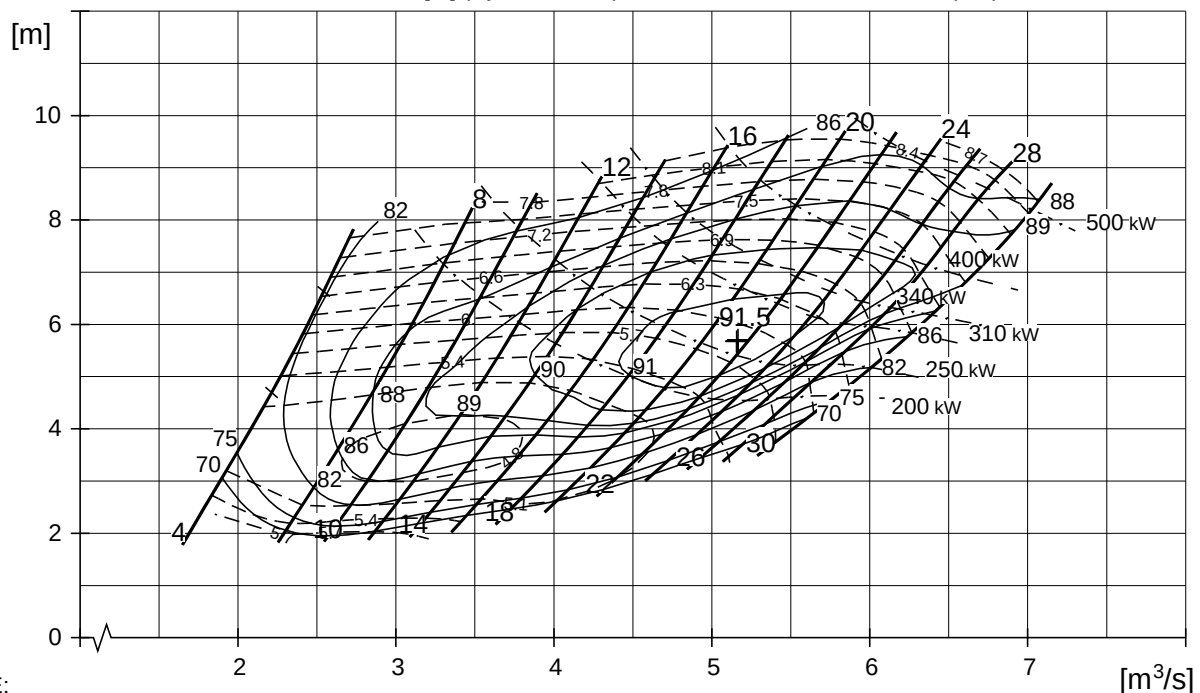
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

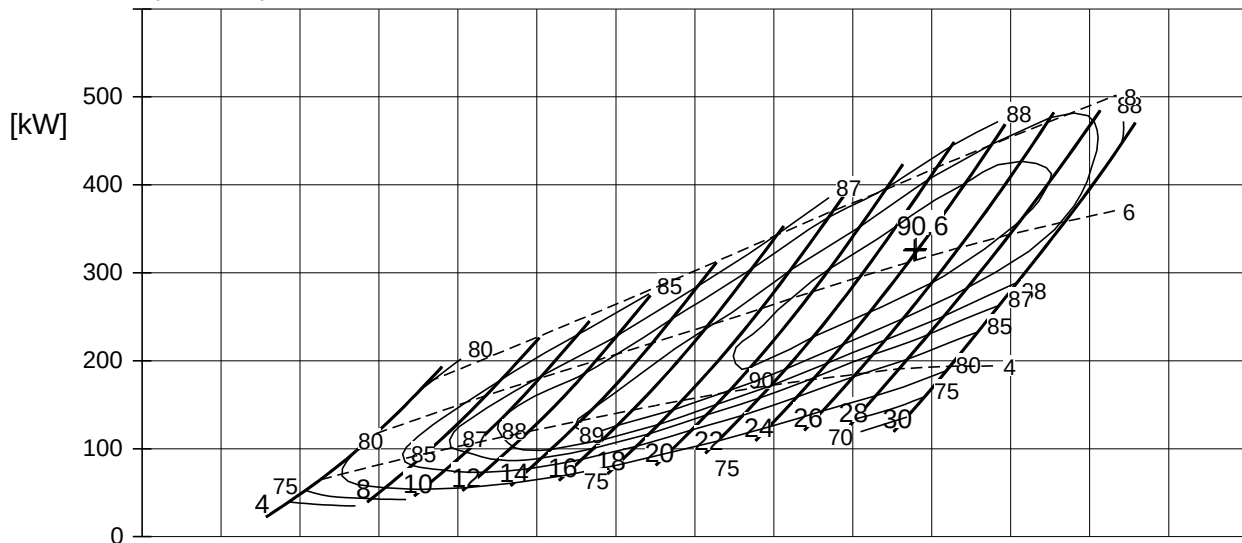
53- 287 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
287 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-6BC	6	200 kW	350-12	1: 3.500	95.5% - 94.6%
835	54-52-6AA	6	250	350-12	1: 3.500	96.1% - 95.3%
905	66-46-6AA	6	310	350-12	1: 3.500	96.6% - 95.9%
865	54-66-6AA	6	340	350-12	1: 3.500	96.7% - 96.2%
905	66-56-6AA	6	400	350-12	1: 3.500	97.0% - 96.5%
935	66-66-6AA	6	500	360-22	1: 3.500	97.3% - 96.9%
935	66-76-6AA	6	600	360-22	1: 3.500	97.4% - 97.1%

POWER (SHAFT)

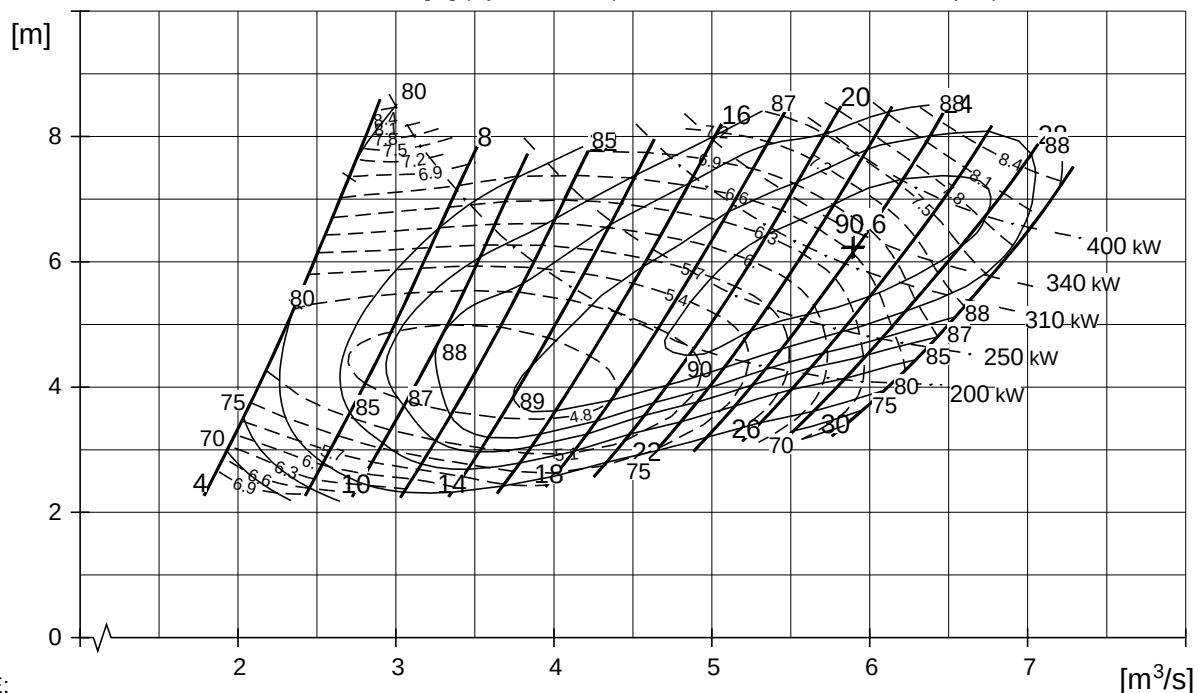
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

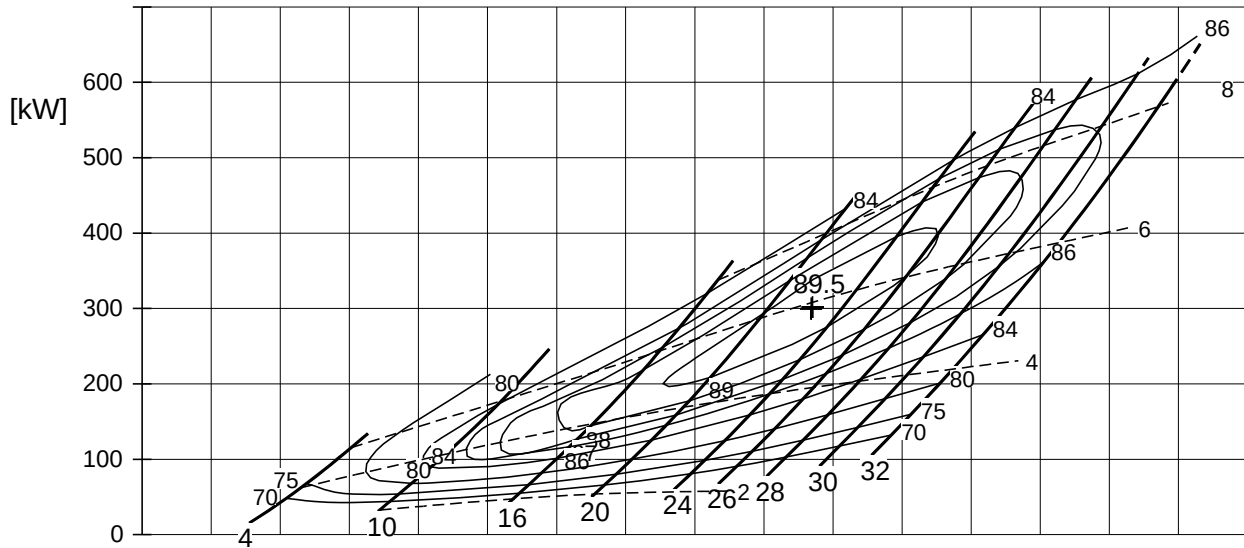
53- 287 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
287 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-6BC	6	200 kW	350-12	1: 3.500	95.5% - 94.6%
835	54-52-6AA	6	250	350-12	1: 3.500	96.1% - 95.3%
905	66-46-6AA	6	310	350-12	1: 3.500	96.6% - 95.9%
865	54-66-6AA	6	340	350-12	1: 3.500	96.7% - 96.2%
905	66-56-6AA	6	400	350-12	1: 3.500	97.0% - 96.5%
935	66-66-6AA	6	500	360-22	1: 3.500	97.3% - 96.9%
935	66-76-6AA	6	600	360-22	1: 3.500	97.4% - 97.1%

POWER (SHAFT)

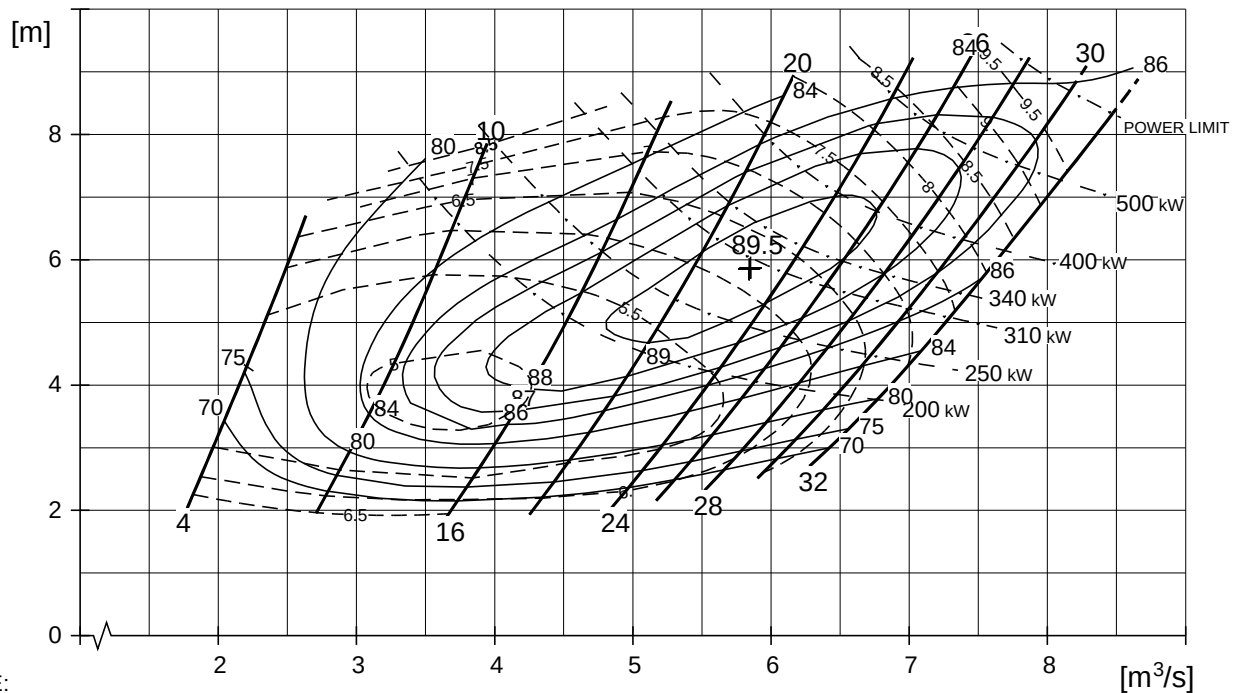
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

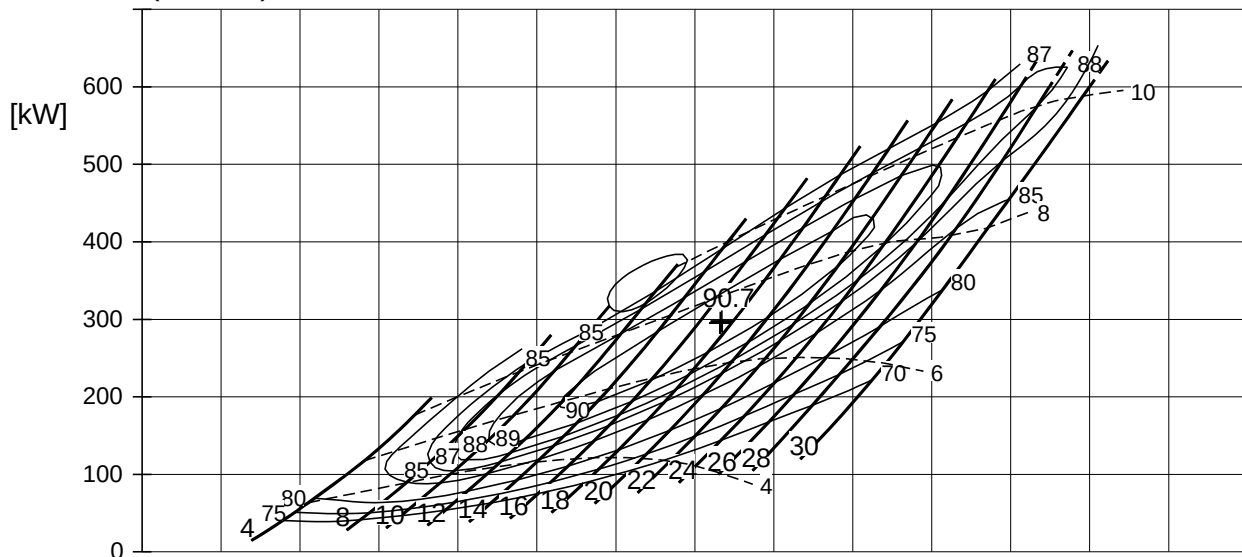
53- 303 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
303 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
835	54-52-6AA	6	250 kW	350-12	1: 3.333	96.0% - 95.2%
905	66-46-6AA	6	310	350-12	1: 3.333	96.5% - 95.8%
865	54-66-6AA	6	340	350-12	1: 3.333	96.7% - 96.0%
905	66-56-6AA	6	400	350-12	1: 3.333	96.9% - 96.4%
935	66-66-6AA	6	500	350-22	1: 3.333	97.2% - 96.8%
935	66-76-6AA	6	600	360-22	1: 3.321	98.1% - 98.0%

POWER (SHAFT)

ISO-CURVES : (- - -) HEAD(m)



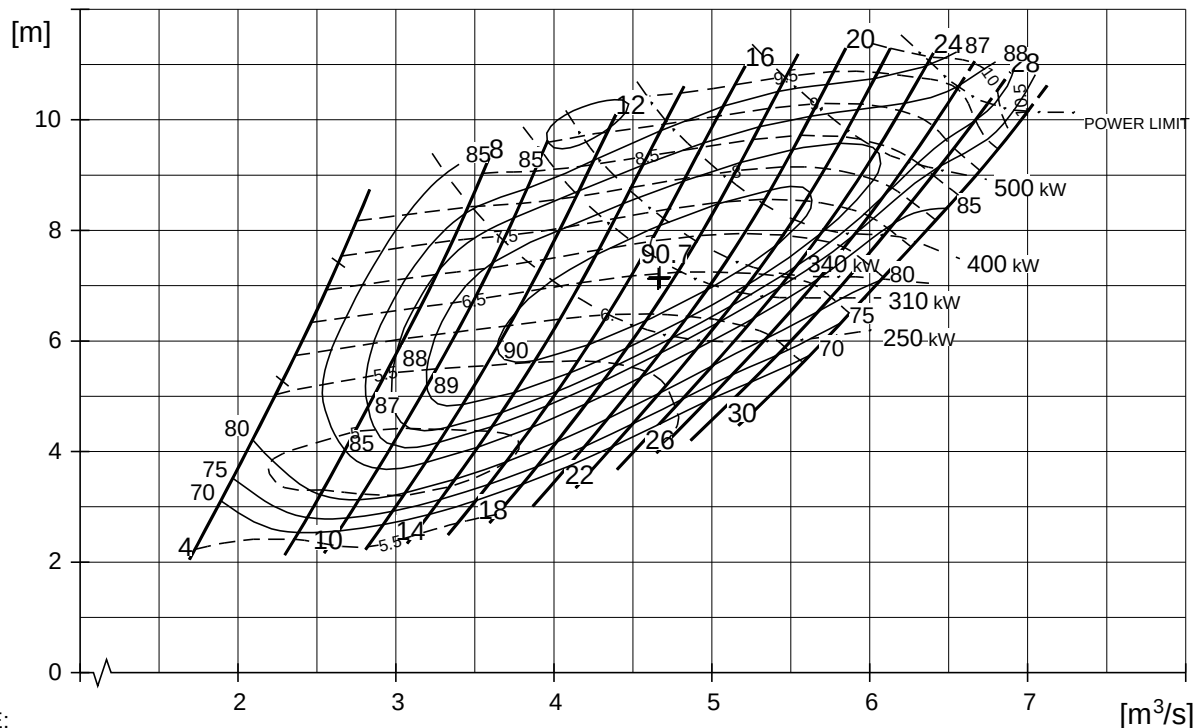
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

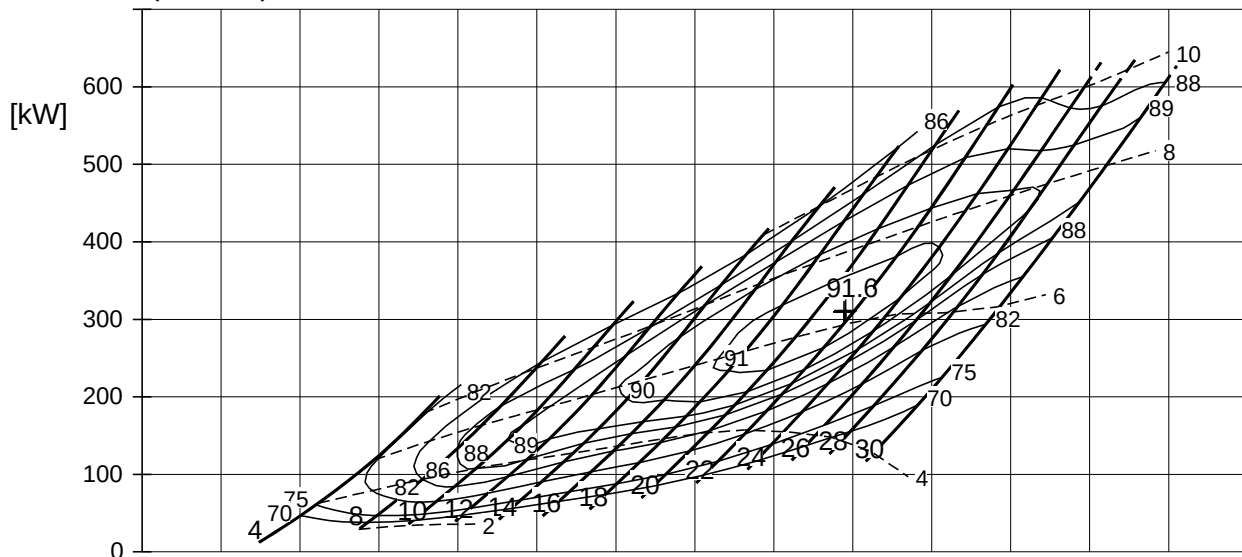
53- 303 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
303 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
835	54-52-6AA	6	250 kW	350-12	1: 3.333	96.0% - 95.2%
905	66-46-6AA	6	310	350-12	1: 3.333	96.5% - 95.8%
865	54-66-6AA	6	340	350-12	1: 3.333	96.7% - 96.0%
905	66-56-6AA	6	400	350-12	1: 3.333	96.9% - 96.4%
935	66-66-6AA	6	500	350-22	1: 3.333	97.2% - 96.8%
935	66-76-6AA	6	600	360-22	1: 3.321	98.1% - 98.0%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)



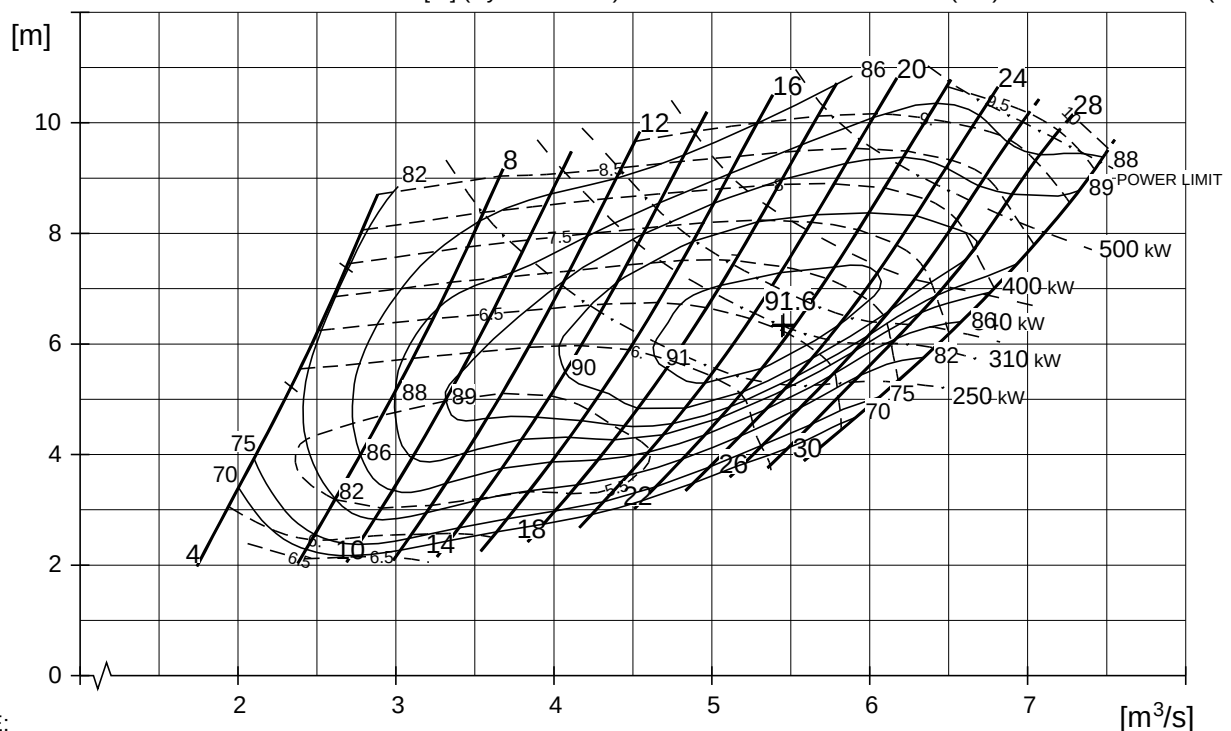
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

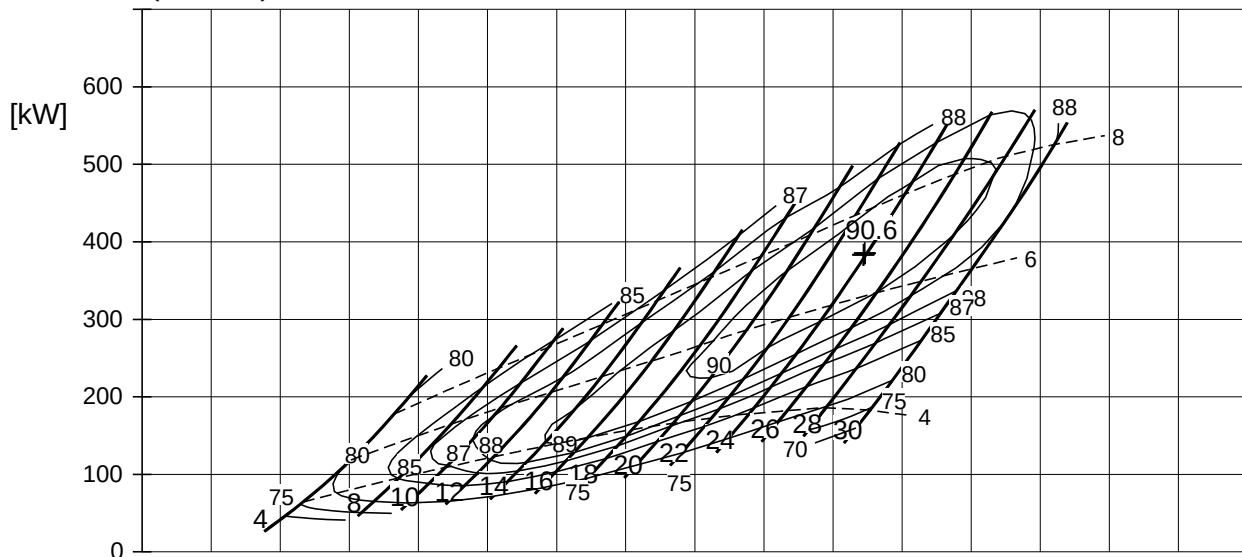
53- 303 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
303 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
835	54-52-6AA	6	250 kW	350-12	1: 3.333	96.0% - 95.2%
905	66-46-6AA	6	310	350-12	1: 3.333	96.5% - 95.8%
865	54-66-6AA	6	340	350-12	1: 3.333	96.7% - 96.0%
905	66-56-6AA	6	400	350-12	1: 3.333	96.9% - 96.4%
935	66-66-6AA	6	500	350-22	1: 3.333	97.2% - 96.8%
935	66-76-6AA	6	600	360-22	1: 3.321	98.1% - 98.0%

POWER (SHAFT)

ISO-CURVES : (- - -) HEAD(m)



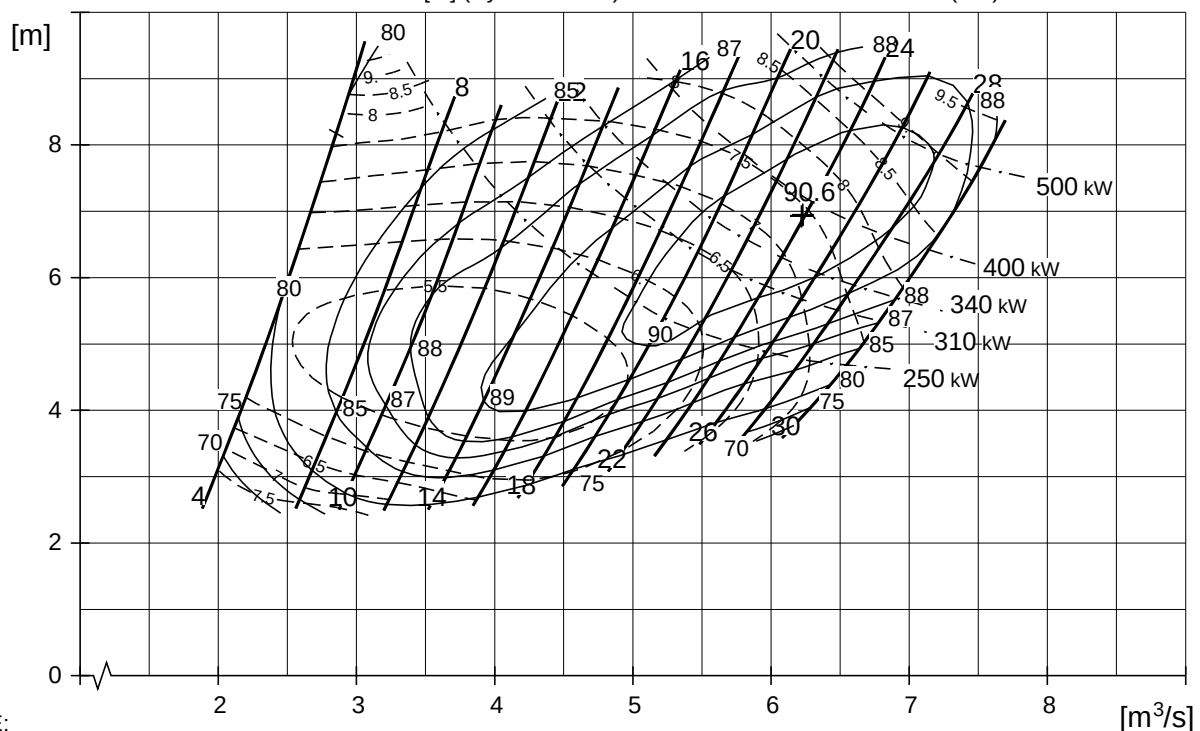
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

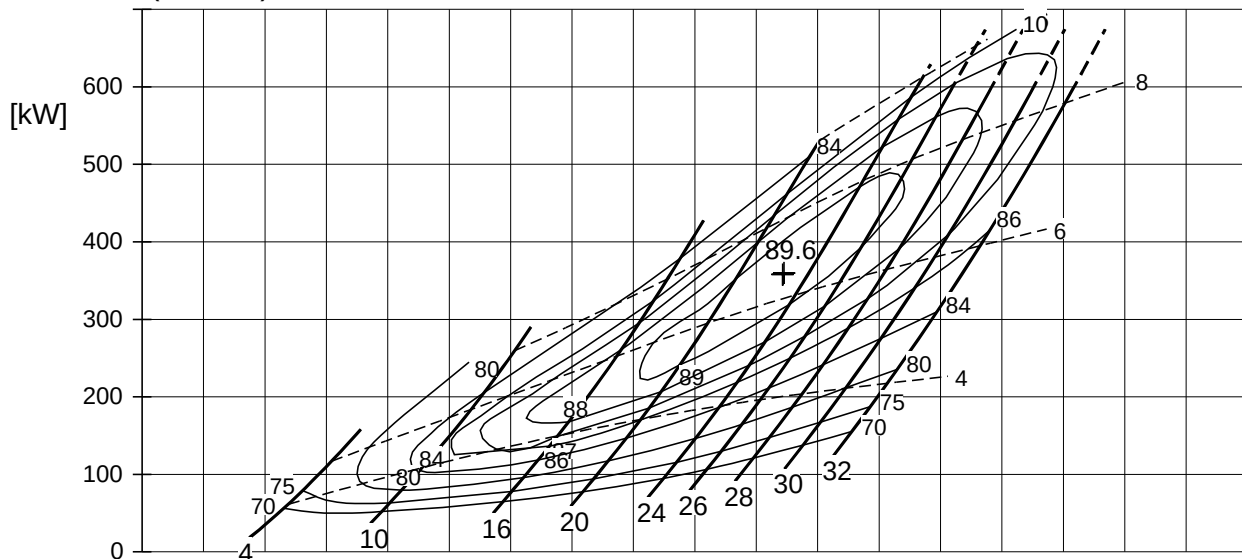
53- 303 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
303 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
835	54-52-6AA	6	250 kW	350-12	1: 3.333	96.0% - 95.2%
905	66-46-6AA	6	310	350-12	1: 3.333	96.5% - 95.8%
865	54-66-6AA	6	340	350-12	1: 3.333	96.7% - 96.0%
905	66-56-6AA	6	400	350-12	1: 3.333	96.9% - 96.4%
935	66-66-6AA	6	500	350-22	1: 3.333	97.2% - 96.8%
935	66-76-6AA	6	600	360-22	1: 3.321	98.1% - 98.0%

POWER (SHAFT)

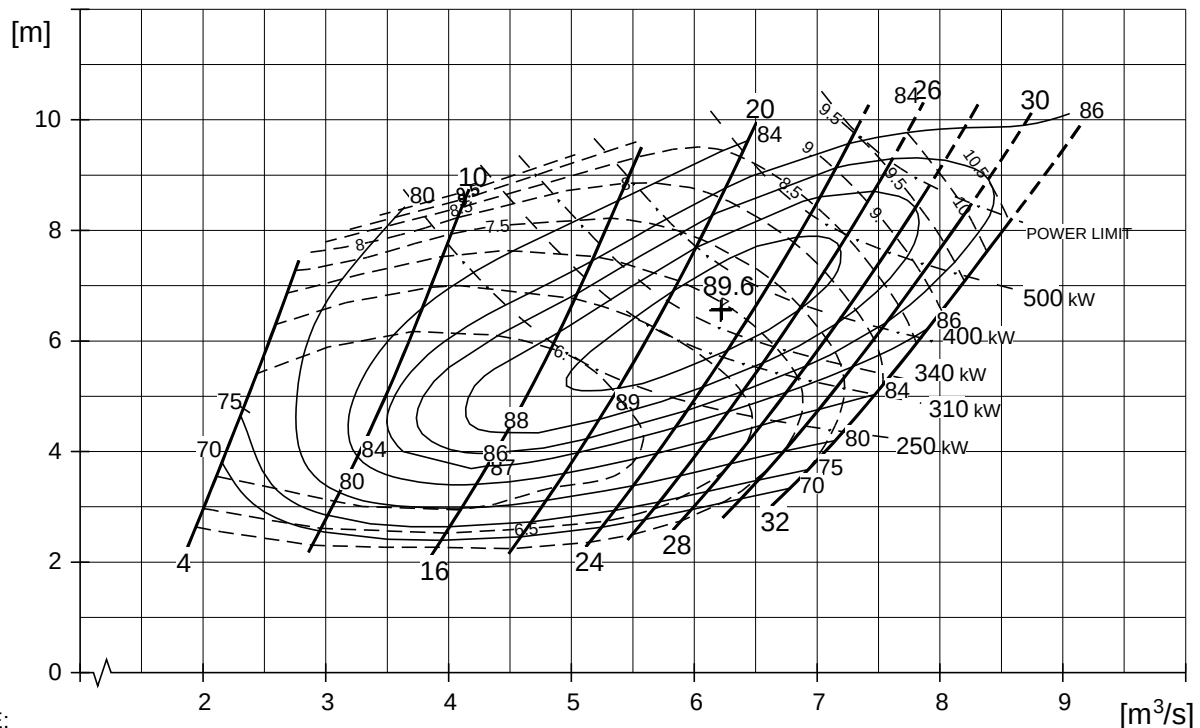
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

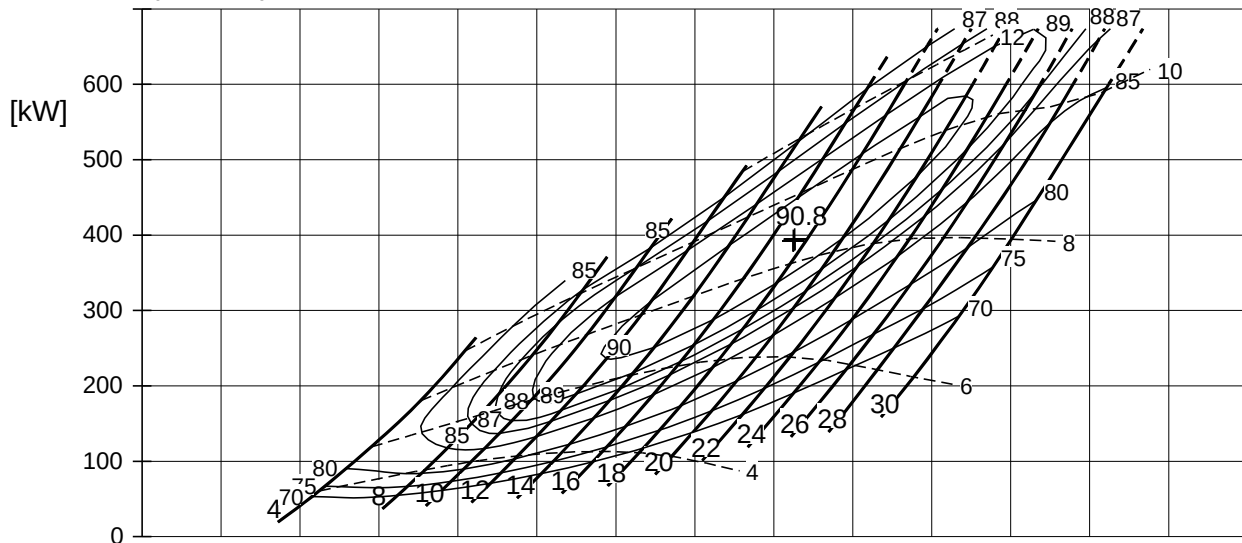
53- 333C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
333 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
835	54-52-6AA	6	250 kW	350-13	1: 3.034	97.0% - 96.4%
905	66-46-6AA	6	310	350-13	1: 3.034	97.3% - 96.8%
865	54-66-6AA	6	340	350-13	1: 3.034	97.4% - 97.0%
905	66-56-6AA	6	400	350-13	1: 3.034	97.6% - 97.2%
935	66-66-6AA	6	440	350-23	1: 3.000	97.7% - 97.4%
935	66-66-6AA	6	500	360-23	1: 3.034	97.8% - 97.5%
935	66-76-6AA	6	600	360-23	1: 3.034	97.9% - 97.7%

POWER (SHAFT)

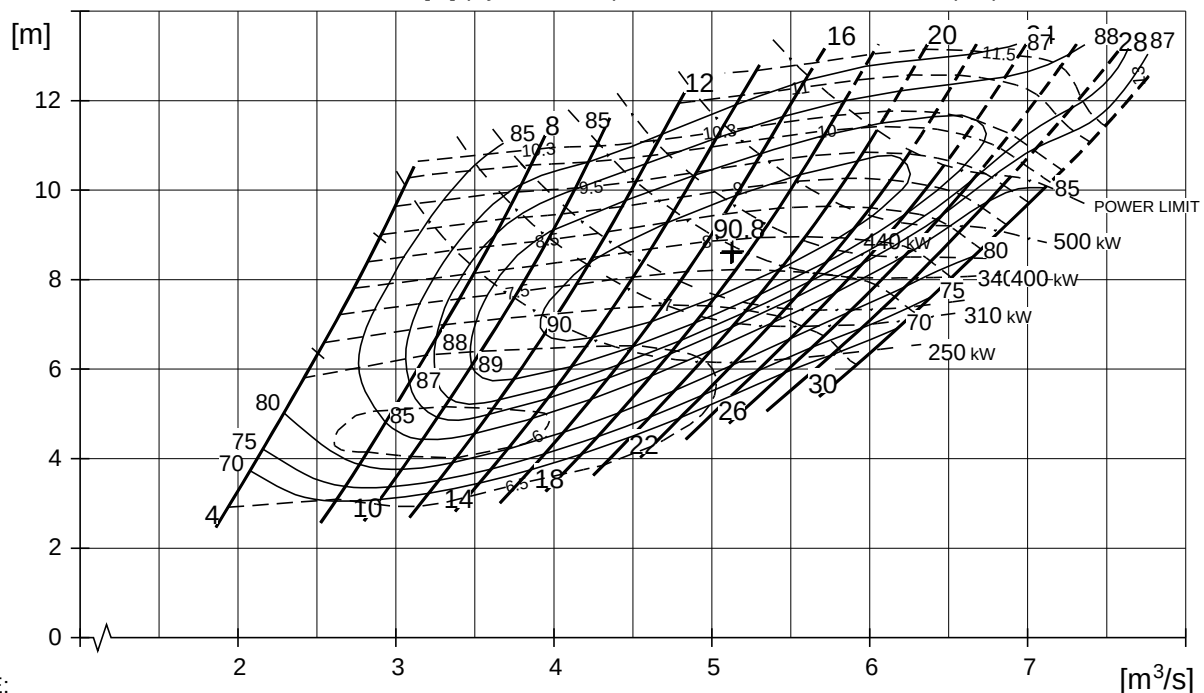
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

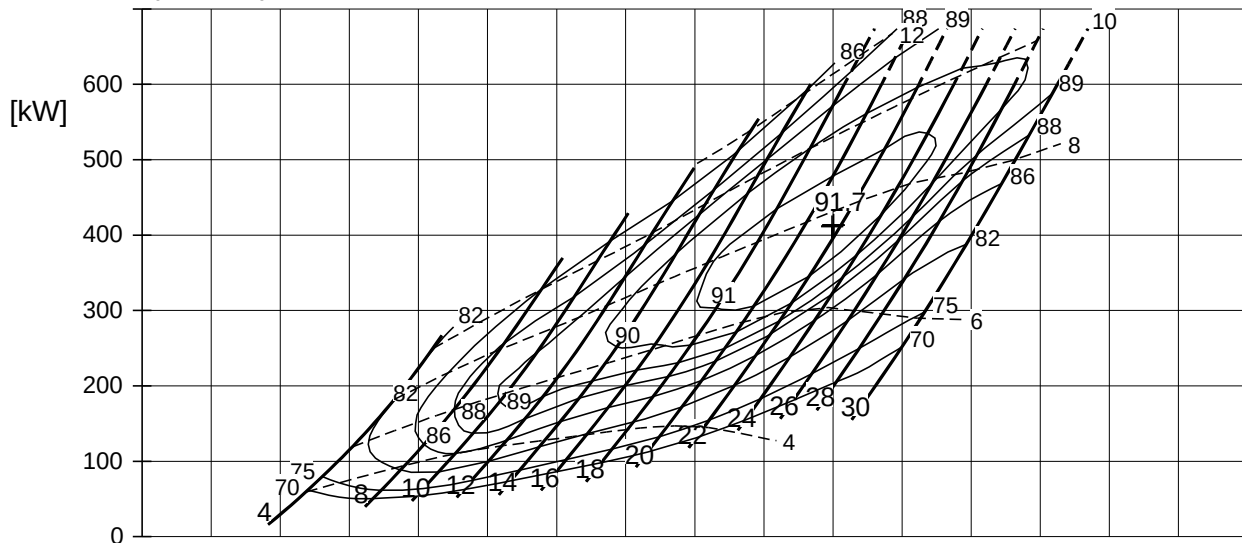
53- 333C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
333 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
835	54-52-6AA	6	250 kW	350-13	1: 3.034	97.0% - 96.4%
905	66-46-6AA	6	310	350-13	1: 3.034	97.3% - 96.8%
865	54-66-6AA	6	340	350-13	1: 3.034	97.4% - 97.0%
905	66-56-6AA	6	400	350-13	1: 3.034	97.6% - 97.2%
935	66-66-6AA	6	440	350-23	1: 3.000	97.7% - 97.4%
935	66-66-6AA	6	500	360-23	1: 3.034	97.8% - 97.5%
935	66-76-6AA	6	600	360-23	1: 3.034	97.9% - 97.7%

POWER (SHAFT)

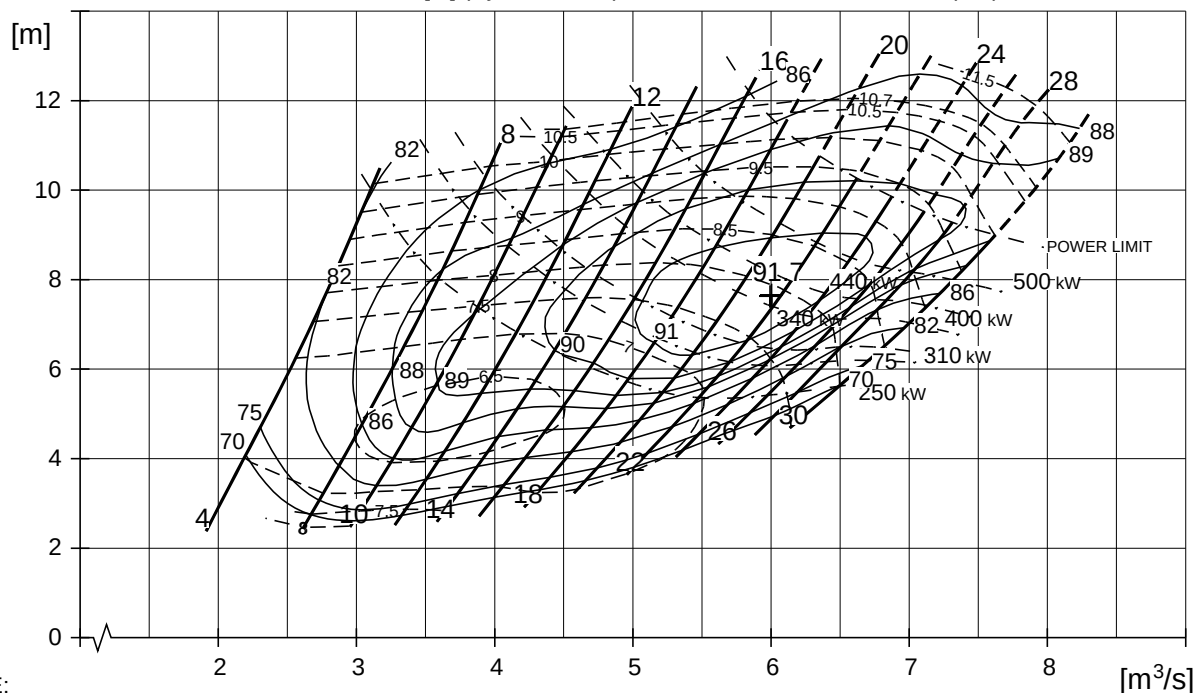
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

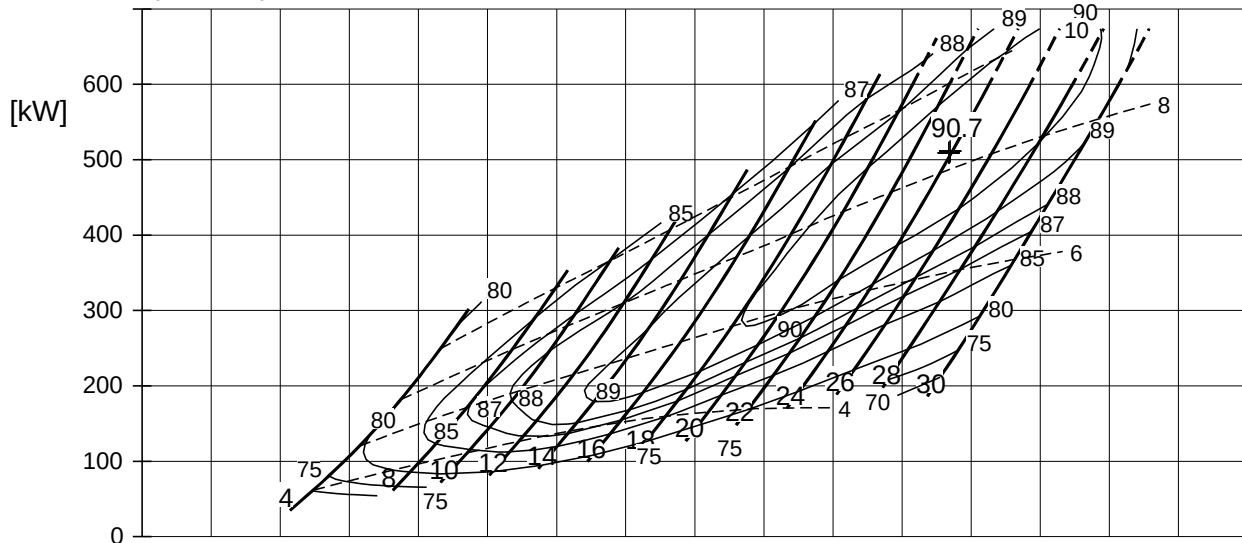
53- 333C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
333 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
835	54-52-6AA	6	250 kW	350-13	1: 3.034	97.0% - 96.4%
905	66-46-6AA	6	310	350-13	1: 3.034	97.3% - 96.8%
865	54-66-6AA	6	340	350-13	1: 3.034	97.4% - 97.0%
905	66-56-6AA	6	400	350-13	1: 3.034	97.6% - 97.2%
935	66-66-6AA	6	440	350-23	1: 3.000	97.7% - 97.4%
935	66-66-6AA	6	500	360-23	1: 3.034	97.8% - 97.5%
935	66-76-6AA	6	600	360-23	1: 3.034	97.9% - 97.7%

POWER (SHAFT)

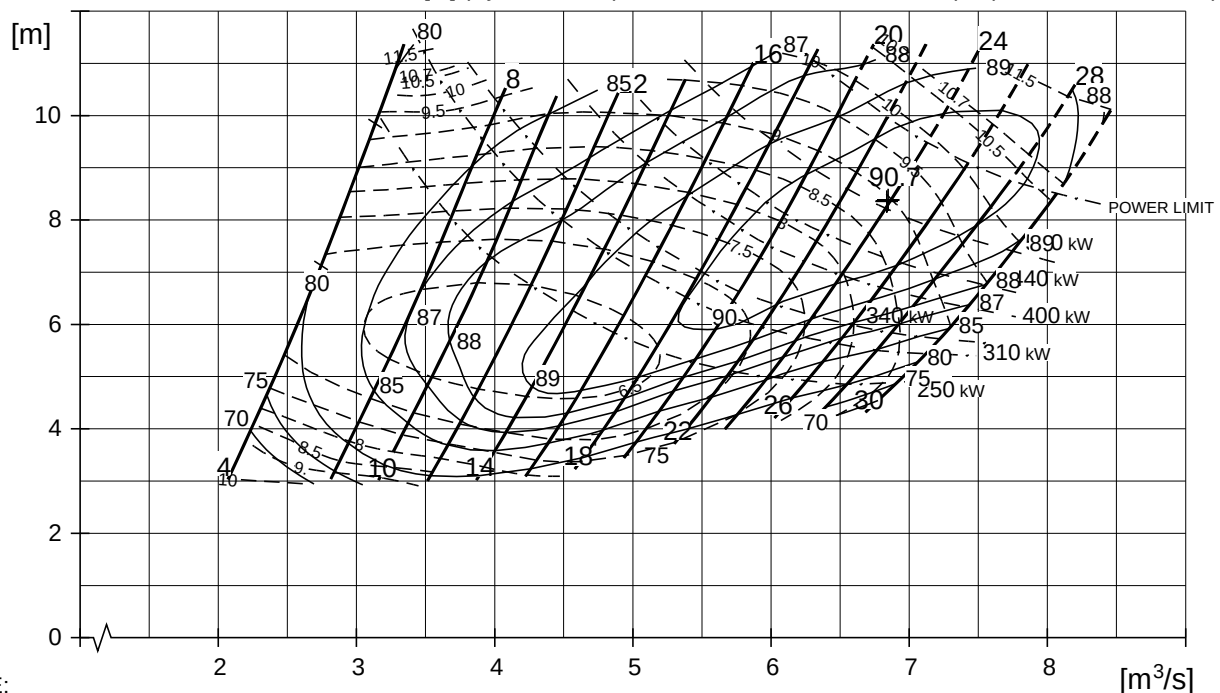
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

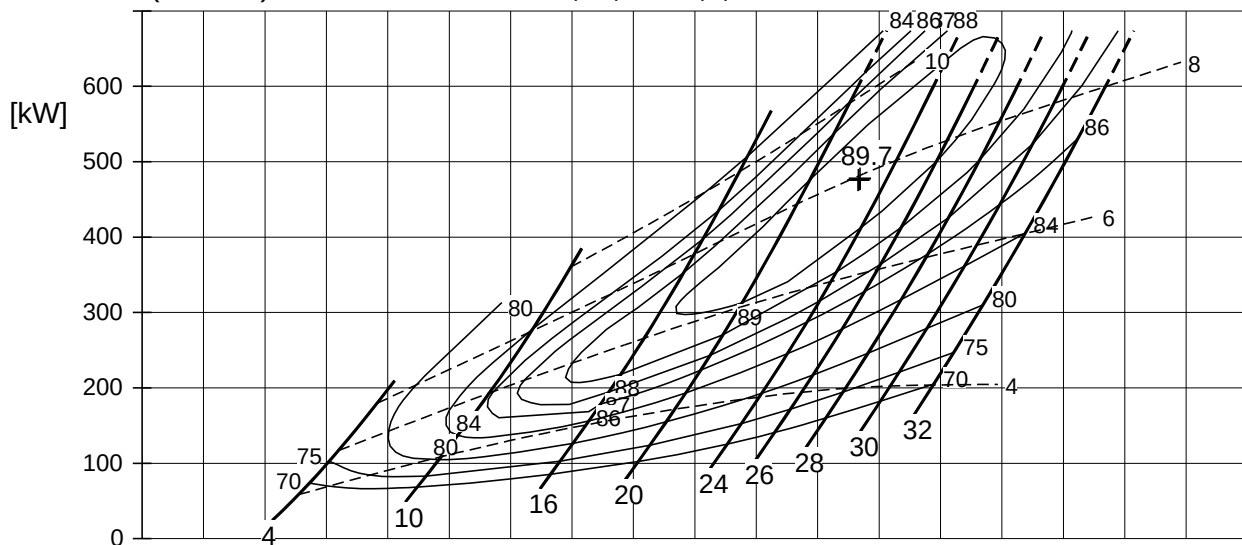
53- 333C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
333 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
835	54-52-6AA	6	250 kW	350-13	1: 3.034	97.0% - 96.4%
905	66-46-6AA	6	310	350-13	1: 3.034	97.3% - 96.8%
865	54-66-6AA	6	340	350-13	1: 3.034	97.4% - 97.0%
905	66-56-6AA	6	400	350-13	1: 3.034	97.6% - 97.2%
935	66-66-6AA	6	440	350-23	1: 3.000	97.7% - 97.4%
935	66-66-6AA	6	500	360-23	1: 3.034	97.8% - 97.5%
935	66-76-6AA	6	600	360-23	1: 3.034	97.9% - 97.7%

POWER (SHAFT)

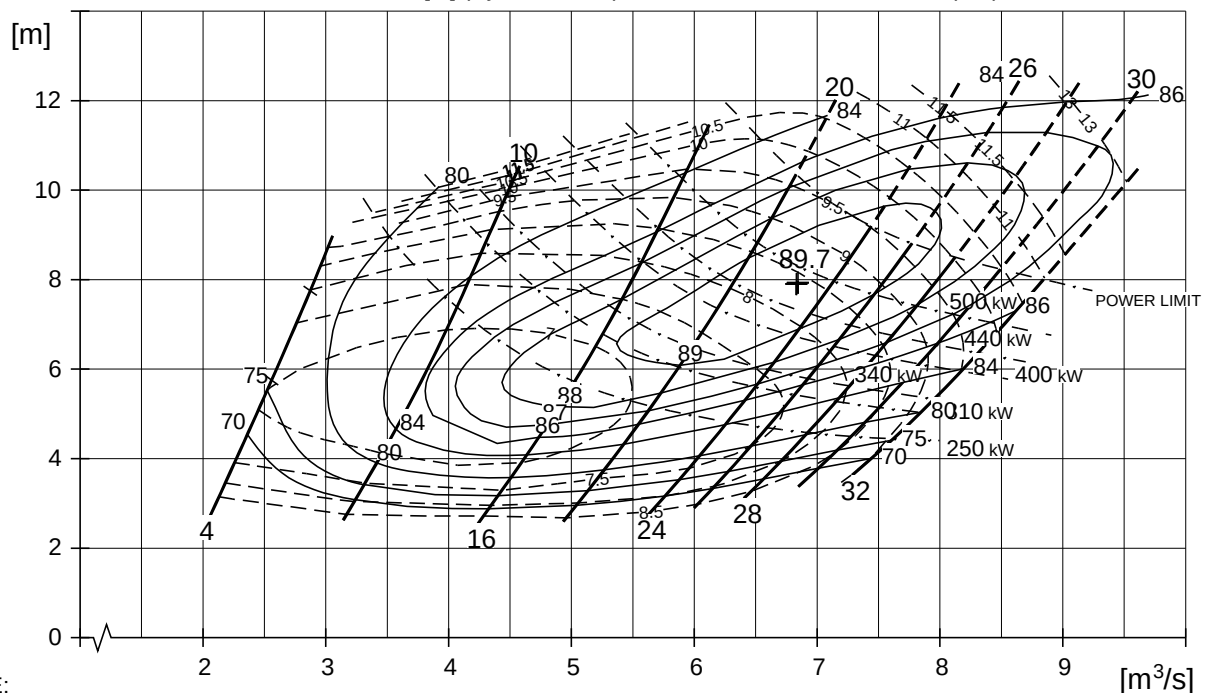
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

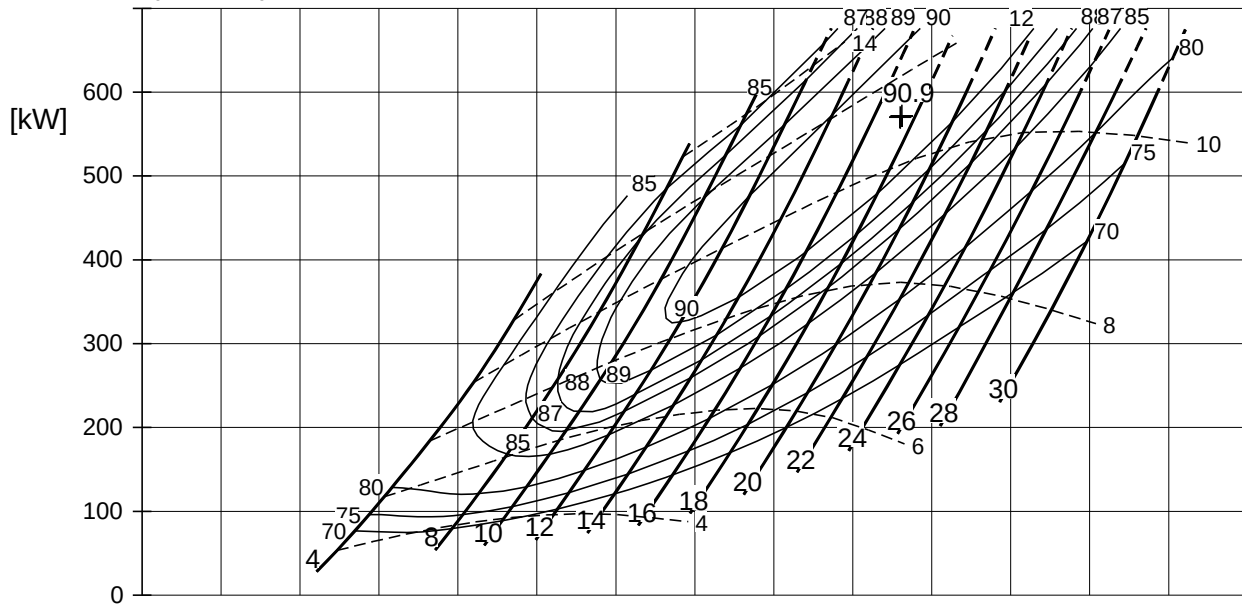
53- 377 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
377 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-56-6AA	6	400 kW	350-13	1: 2.681	97.5% - 97.1%
935	66-66-6AA	6	450	350-13	1: 2.681	97.6% - 97.2%
935	66-76-6AA	6	600	360-23	1: 2.674	97.8% - 97.6%

POWER (SHAFT)

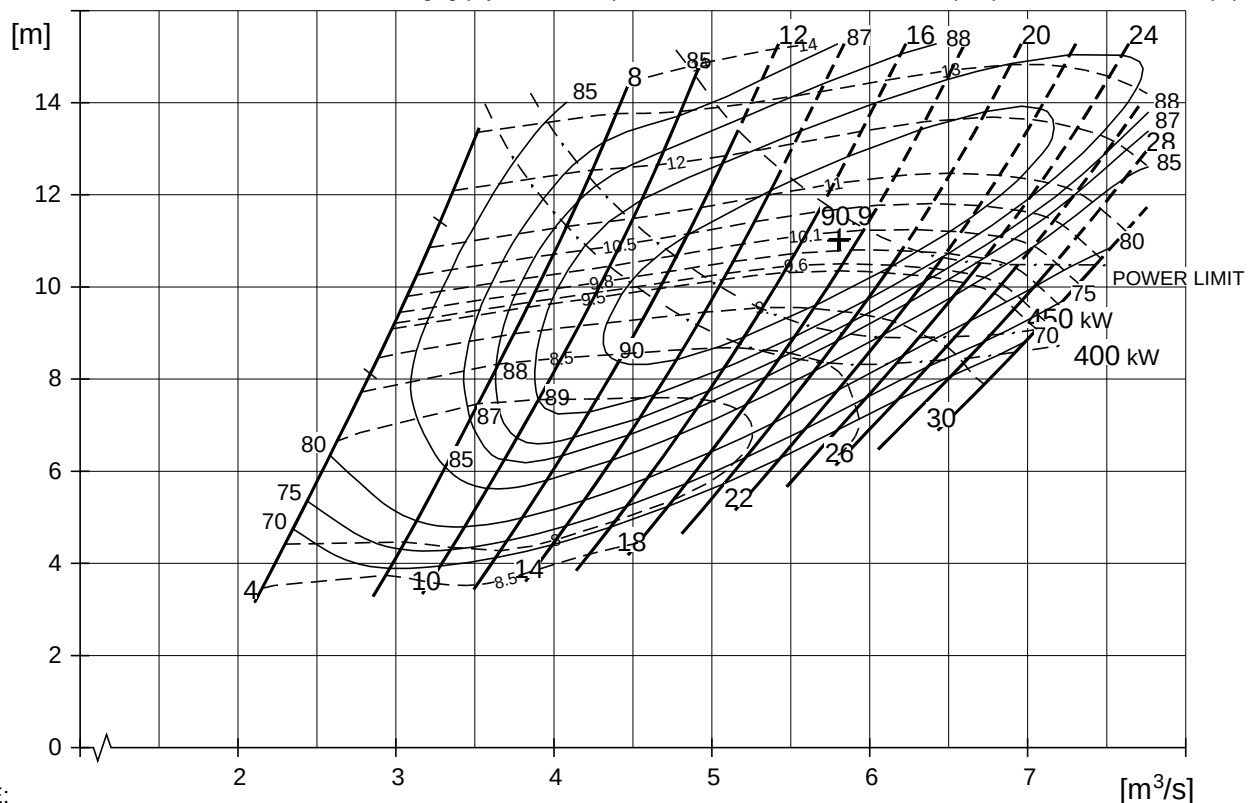
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

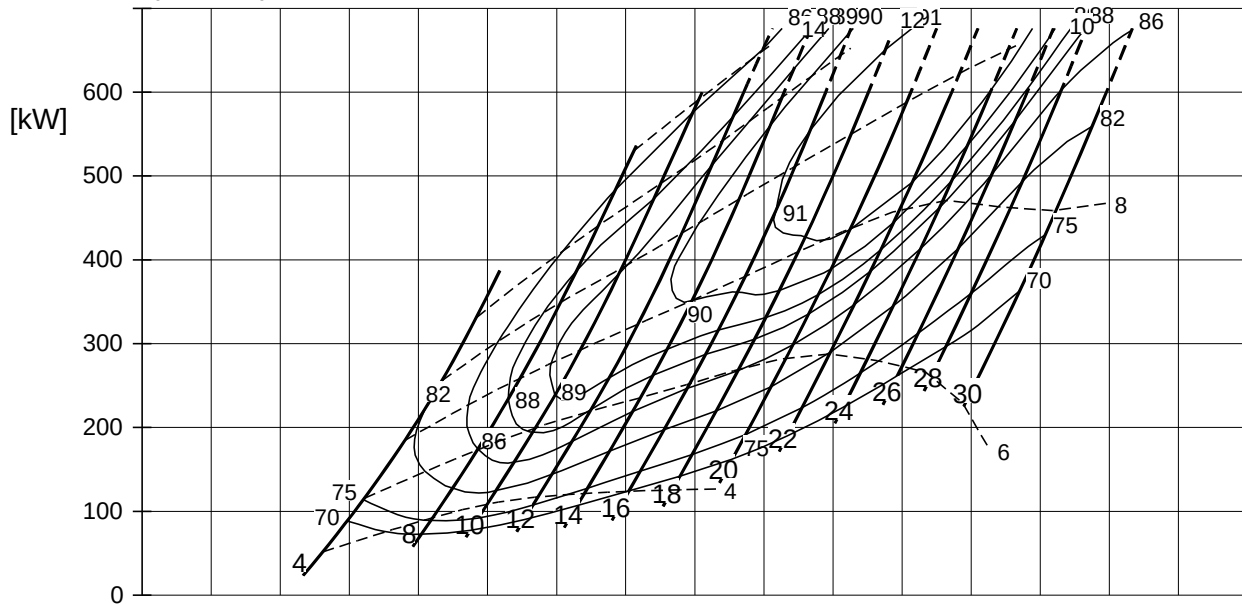
53- 377 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
377 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-56-6AA	6	400 kW	350-13	1: 2.681	97.5% - 97.1%
935	66-66-6AA	6	450	350-13	1: 2.681	97.6% - 97.2%
935	66-76-6AA	6	600	360-23	1: 2.674	97.8% - 97.6%

POWER (SHAFT)

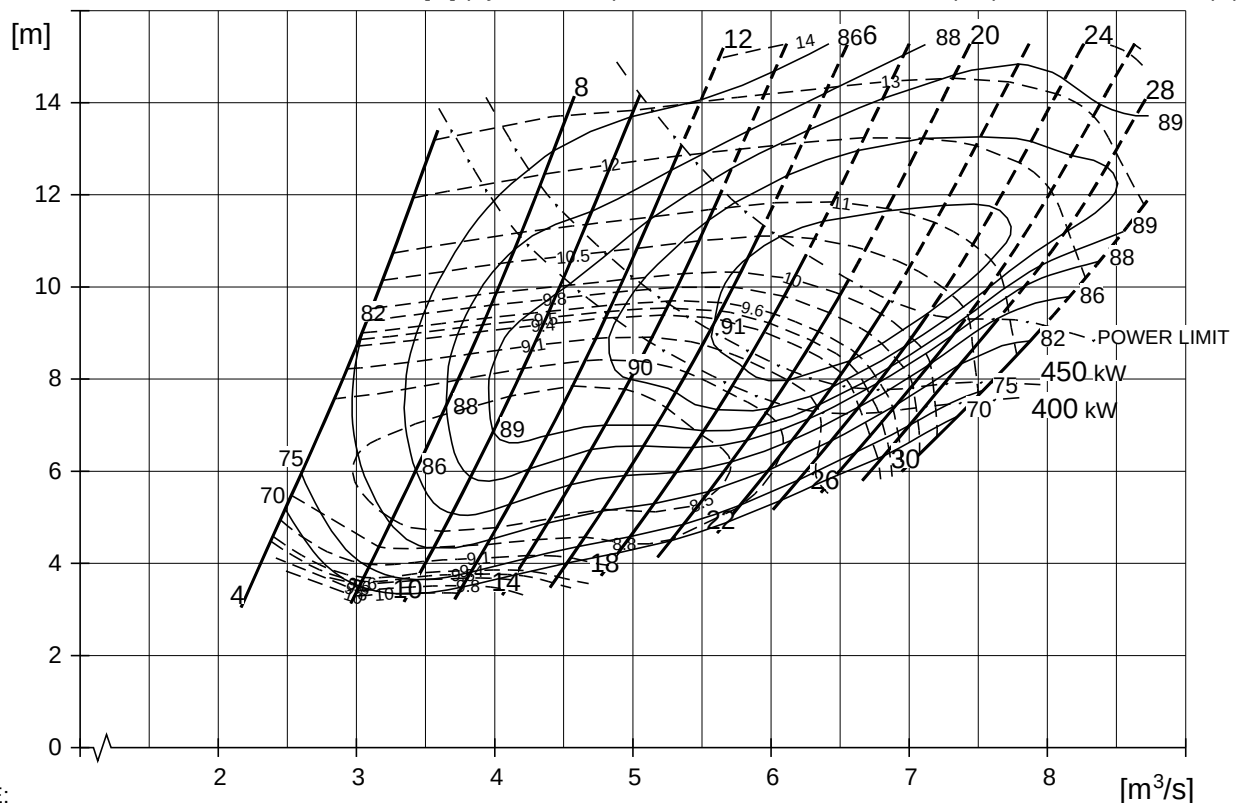
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

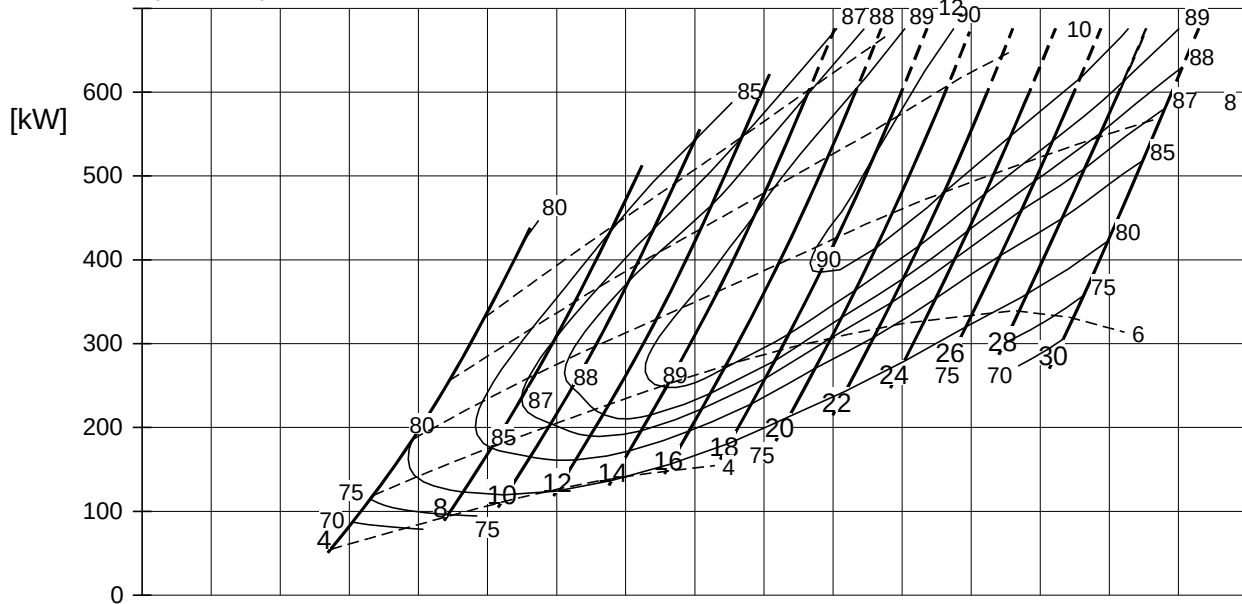
53- 377 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
377 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-56-6AA	6	400 kW	350-13	1: 2.681	97.5% - 97.1%
935	66-66-6AA	6	450	350-13	1: 2.681	97.6% - 97.2%
935	66-76-6AA	6	600	360-23	1: 2.674	97.8% - 97.6%

POWER (SHAFT)

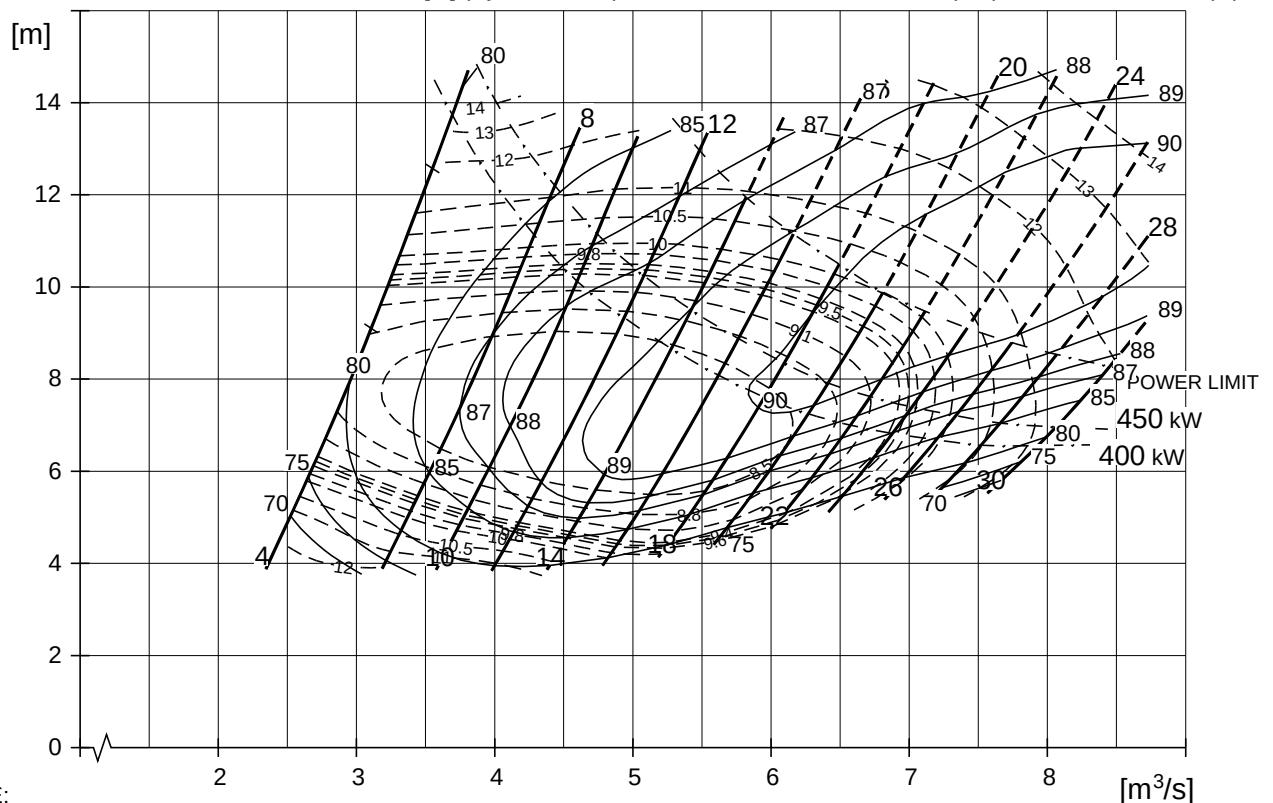
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

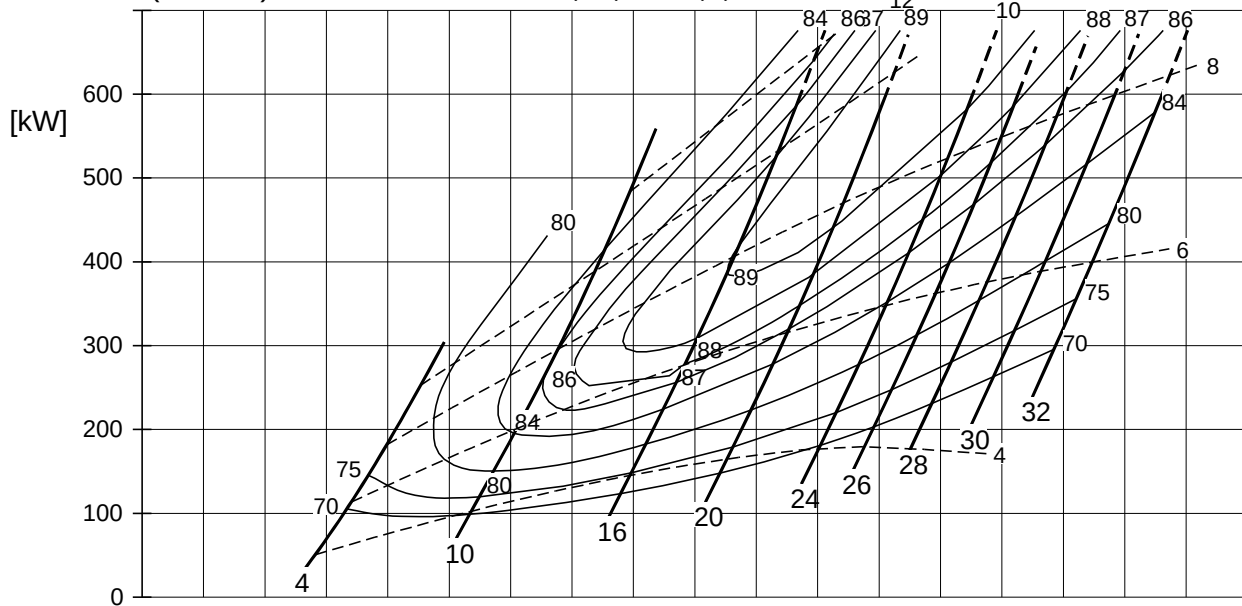
53- 377 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
377 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-56-6AA	6	400 kW	350-13	1: 2.681	97.5% - 97.1%
935	66-66-6AA	6	450	350-13	1: 2.681	97.6% - 97.2%
935	66-76-6AA	6	600	360-23	1: 2.674	97.8% - 97.6%

POWER (SHAFT)

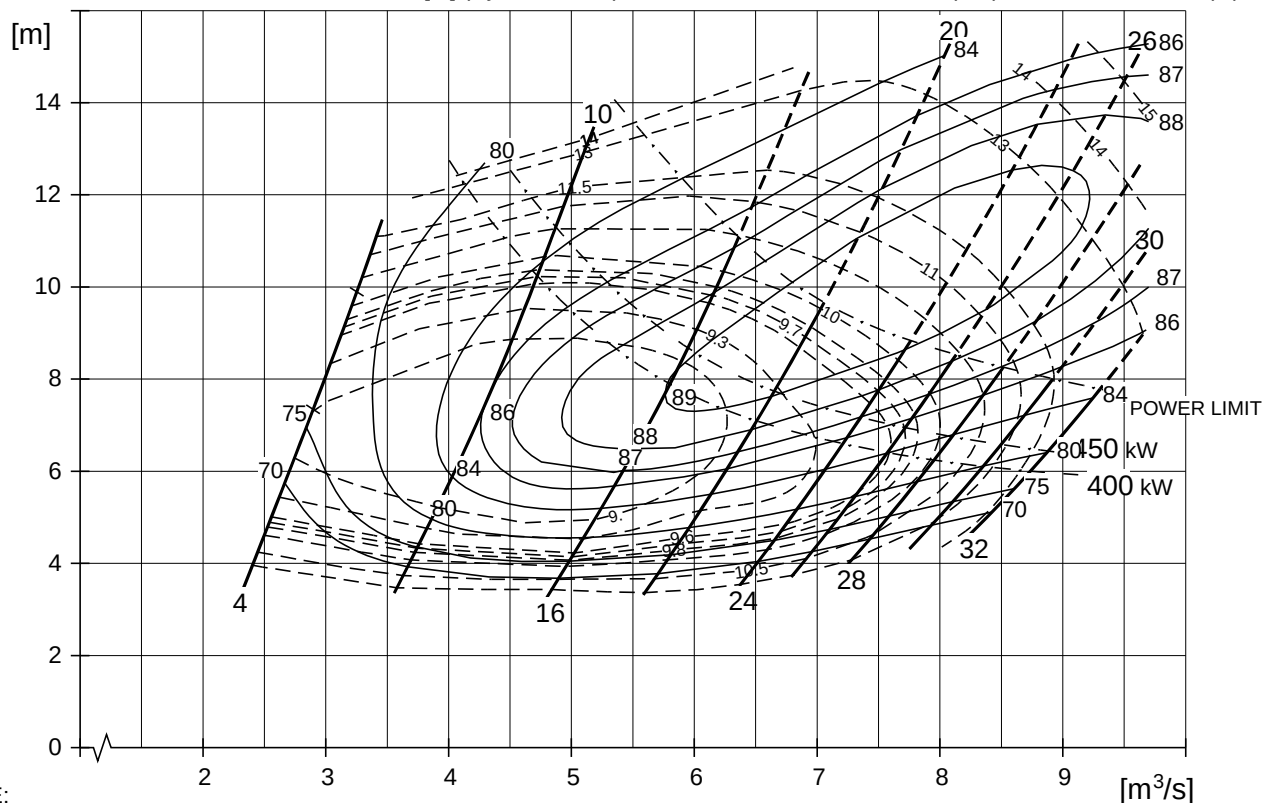
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

53- 433C4E

DATE
2016-02-17

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
433 RPM

IMPELLER/HUB DIAMETER
1200 / 550 mm

GUIDE VANE(S)
50 deg

NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT
935

GENERATOR
66-66-6AA

POLES
6

GEN. POWER
500 kW

GEAR TYPE
350-13

GEAR RATIO
1: 2.333

GEAR EFFICIENCY (Load:1/1-3/4)
98.1% - 97.8%

935

66-76-6AA

6

600

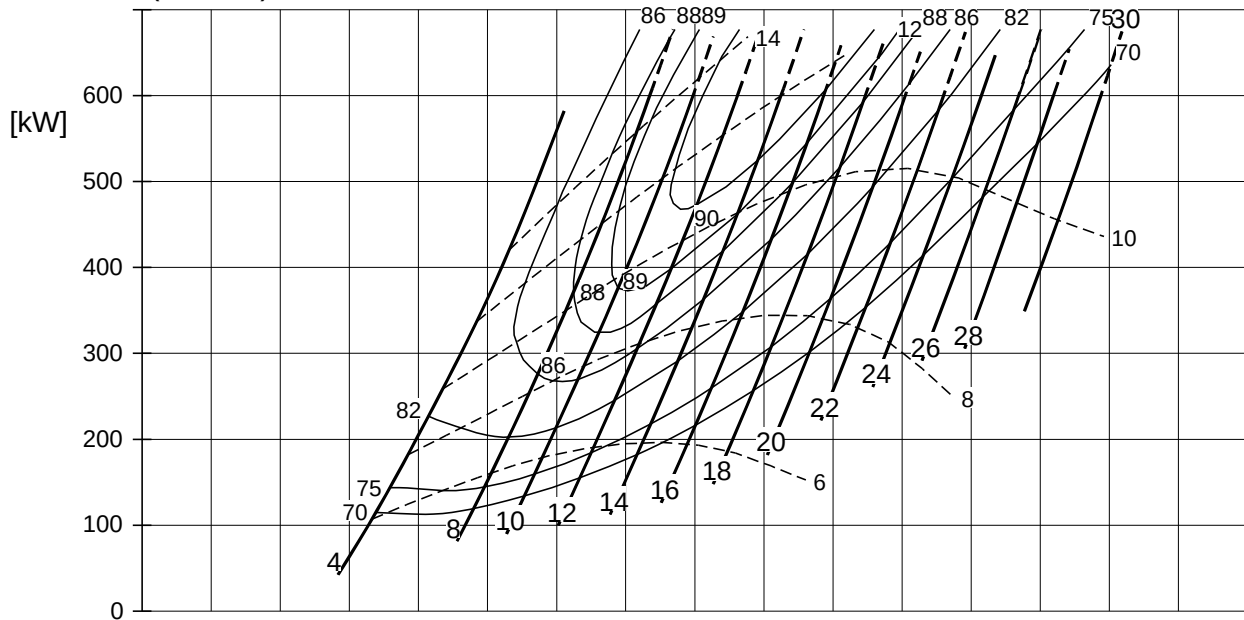
360-13

1: 2.321

98.1% - 98.0%

POWER (SHAFT)

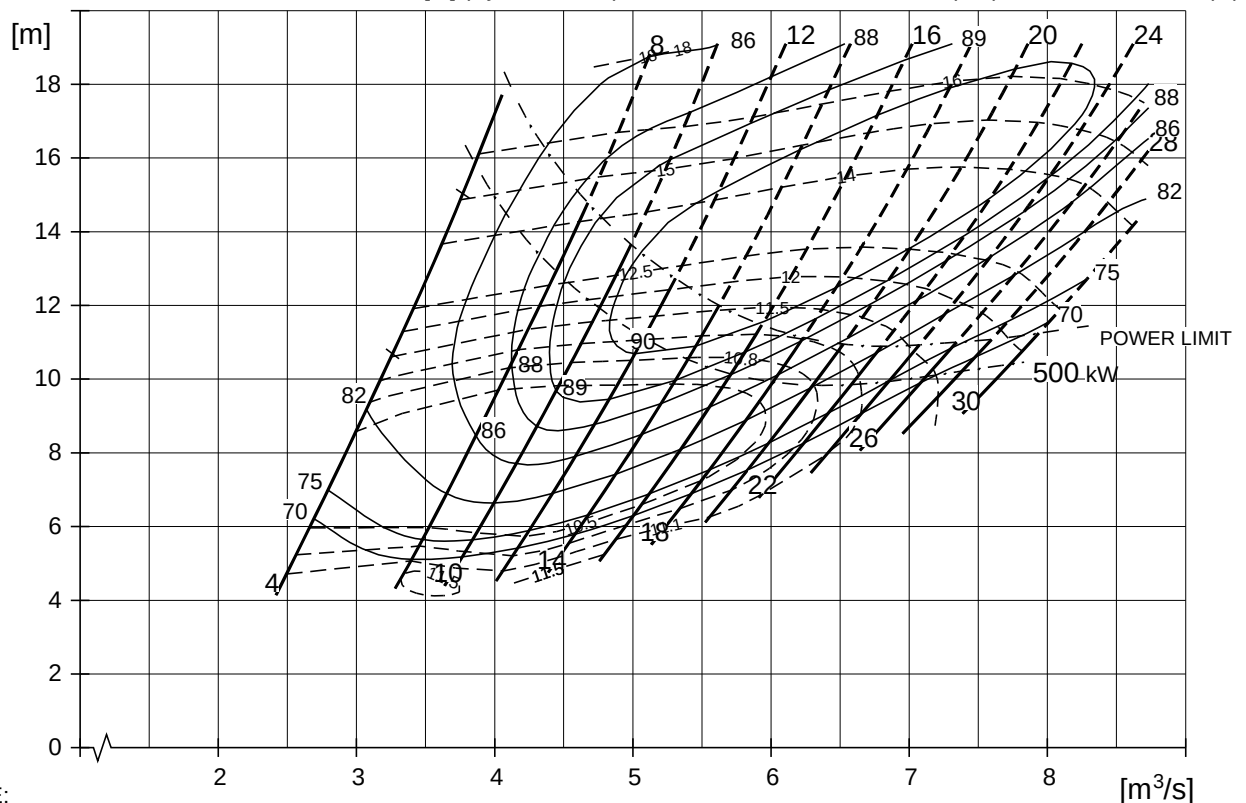
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

53- 433C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
433 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
935GENERATOR
66-66-6AAPOLES
6GEN. POWER
500 kWGEAR TYPE
350-13GEAR RATIO
1: 2.333GEAR EFFICIENCY (Load:1/1-3/4)
98.1% - 97.8%

935

66-76-6AA

6

600

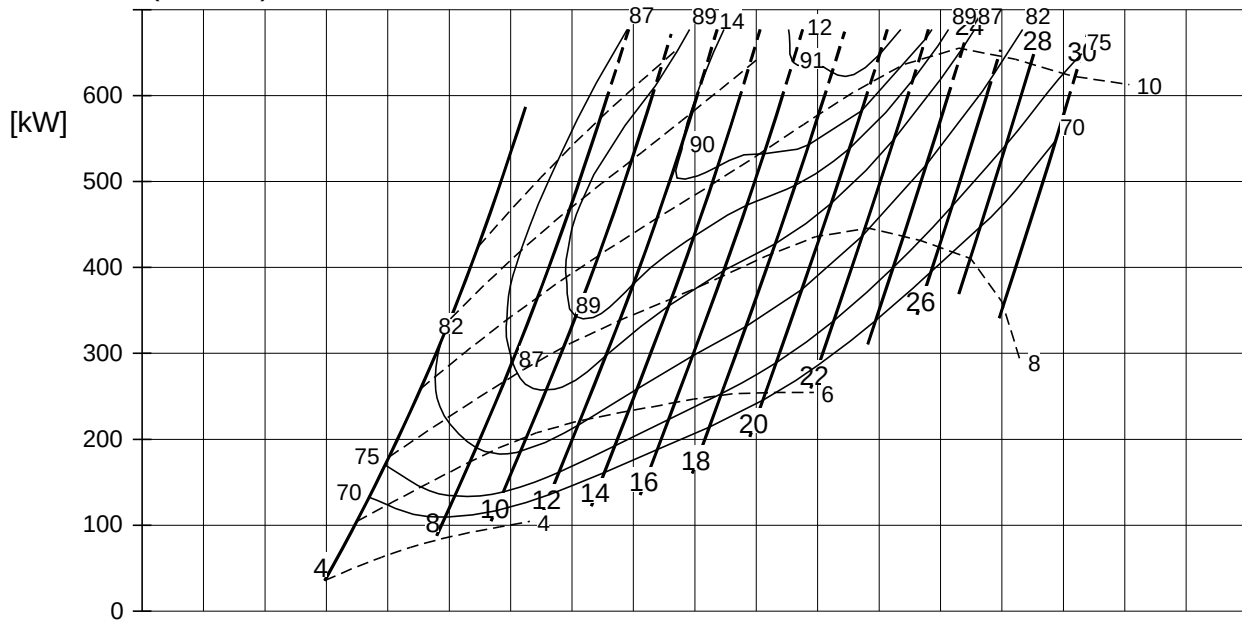
360-13

1: 2.321

98.1% - 98.0%

POWER (SHAFT)

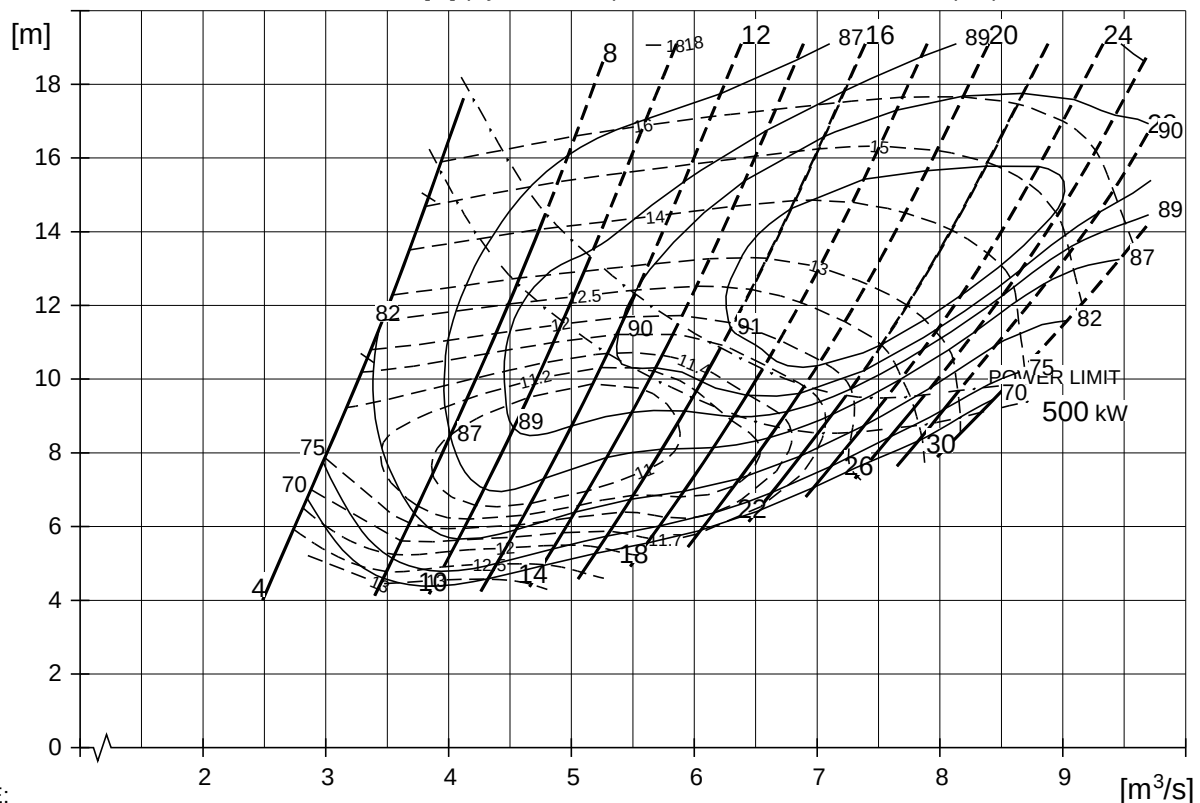
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

53- 433C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
433 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
935GENERATOR
66-66-6AAPOLES
6GEN. POWER
500 kWGEAR TYPE
350-13GEAR RATIO
1: 2.333GEAR EFFICIENCY (Load:1/1-3/4)
98.1% - 97.8%

935

66-76-6AA

6

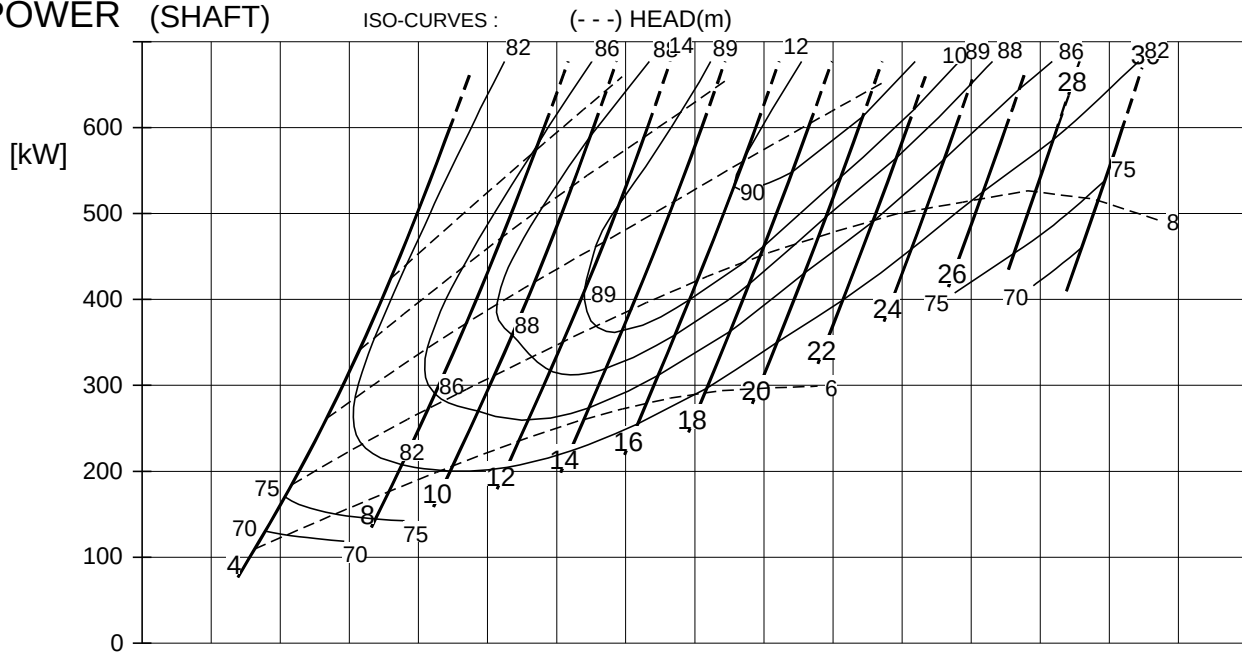
600

360-13

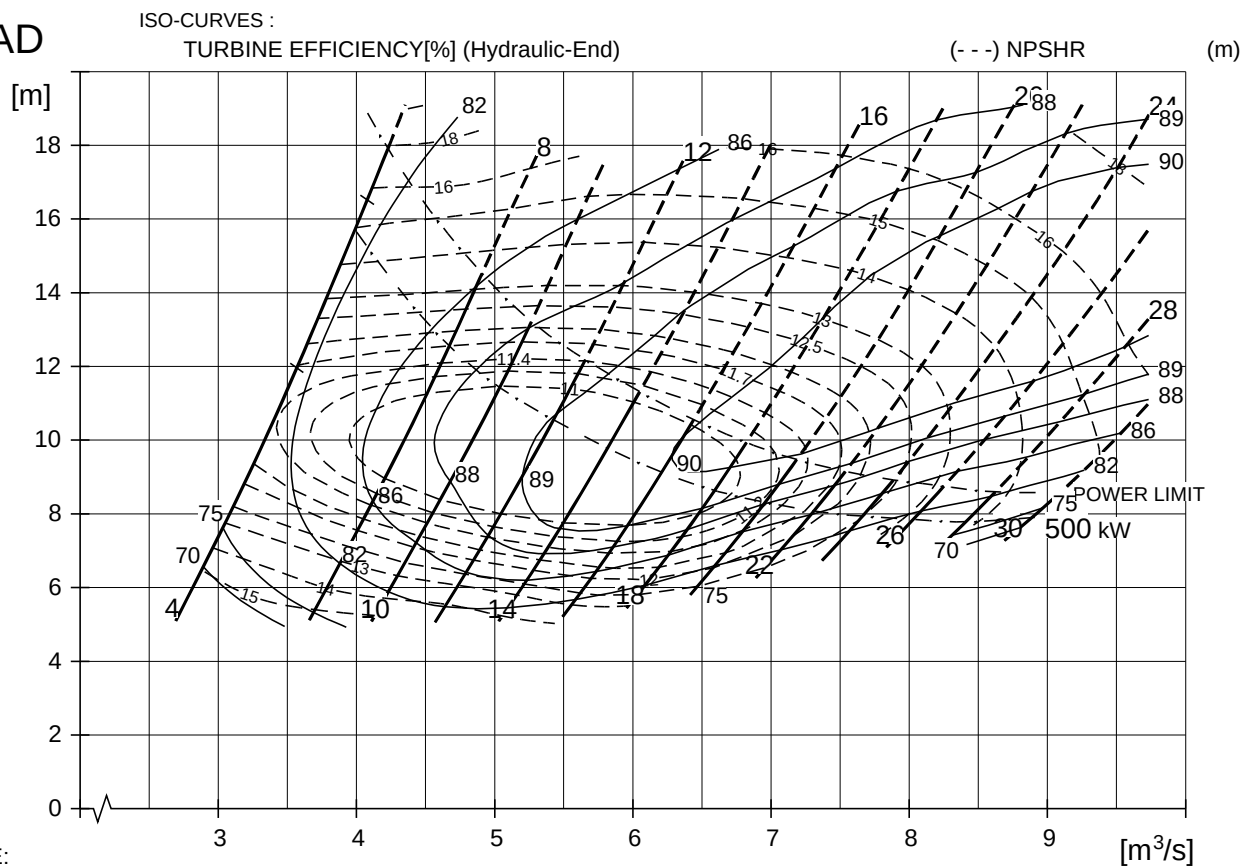
1: 2.321

98.1% - 98.0%

POWER (SHAFT)



HEAD



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

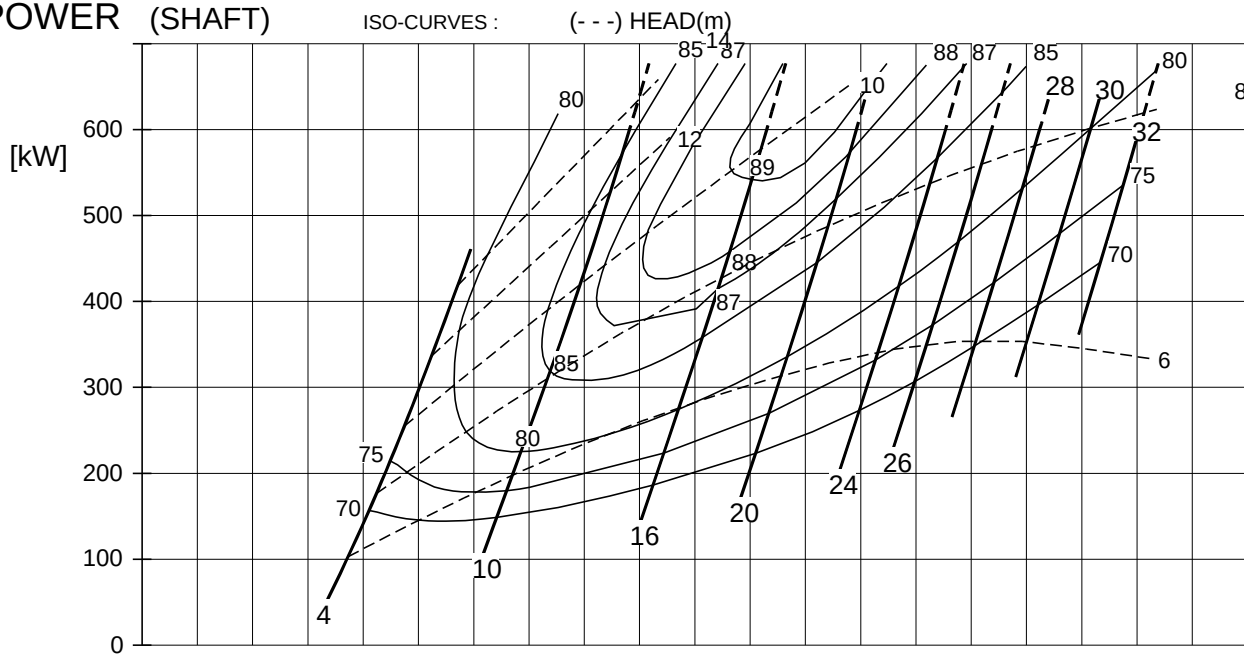
EL 7620

CURVE NO

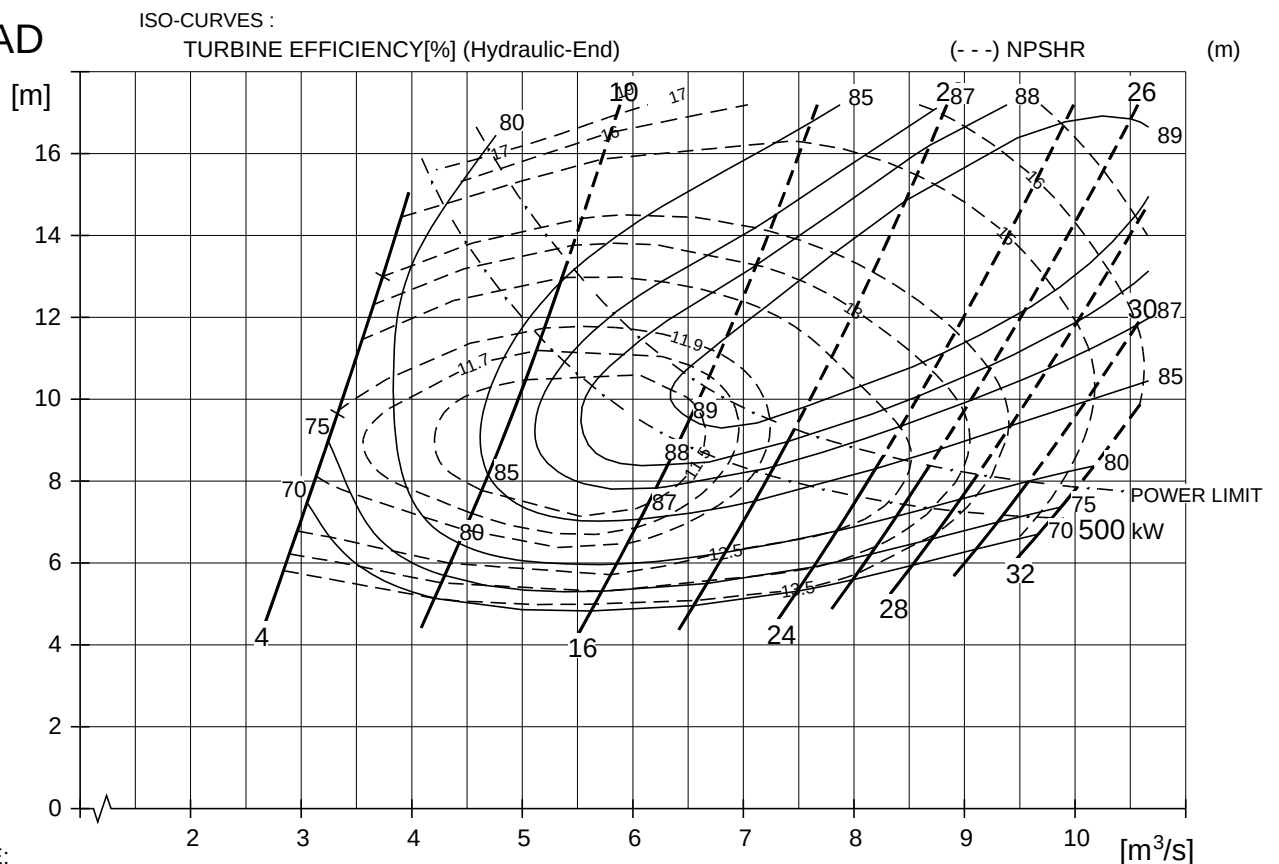
53- 433C4E

DATE 2016-02-17	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 433 RPM			
IMPELLER/HUB DIAMETER 1200 / 550 mm	GUIDE VANE(S) 70 deg		NO. OF BLADES 4	AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 32 deg		
DRIVE UNIT 935	GENERATOR 66-66-6AA	POLES 6	GEN. POWER 500 kW	GEAR TYPE 350-13	GEAR RATIO 1: 2.333	GEAR EFFICIENCY (Load:1/1-3/4) 98.1% - 97.8%
935	66-76-6AA	6	600	360-13	1: 2.321	98.1% - 98.0%

POWER (SHAFT)



HEAD



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

53- 253C4E

DATE
2016-02-17

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
253 RPM

IMPELLER/HUB DIAMETER
1200 / 550 mm

GUIDE VANE(S)
50 deg

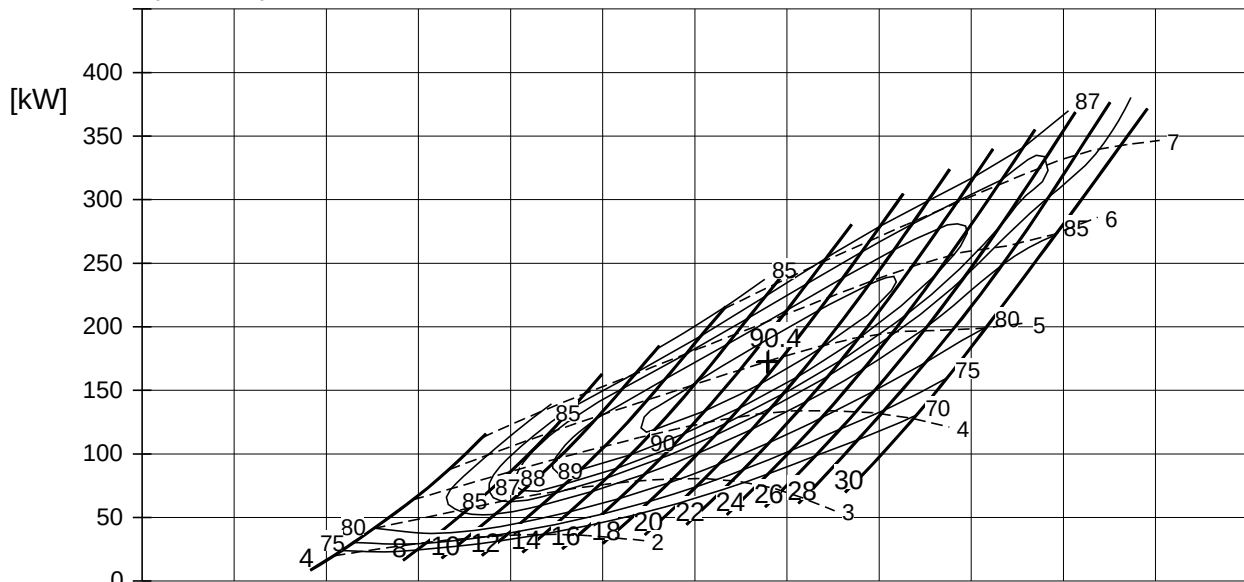
NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-4AA	4	190 kW	350-12	1: 6.000	95.7% - 94.8%
765	43-56-4AA	4	230	350-12	1: 6.000	96.2% - 95.4%
835	54-52-4AA	4	290	350-12	1: 6.000	96.7% - 96.0%
865	54-66-4AA	4	375	350-12	1: 6.000	97.1% - 96.6%

POWER (SHAFT)

ISO-CURVES : (- - -) HEAD(m)



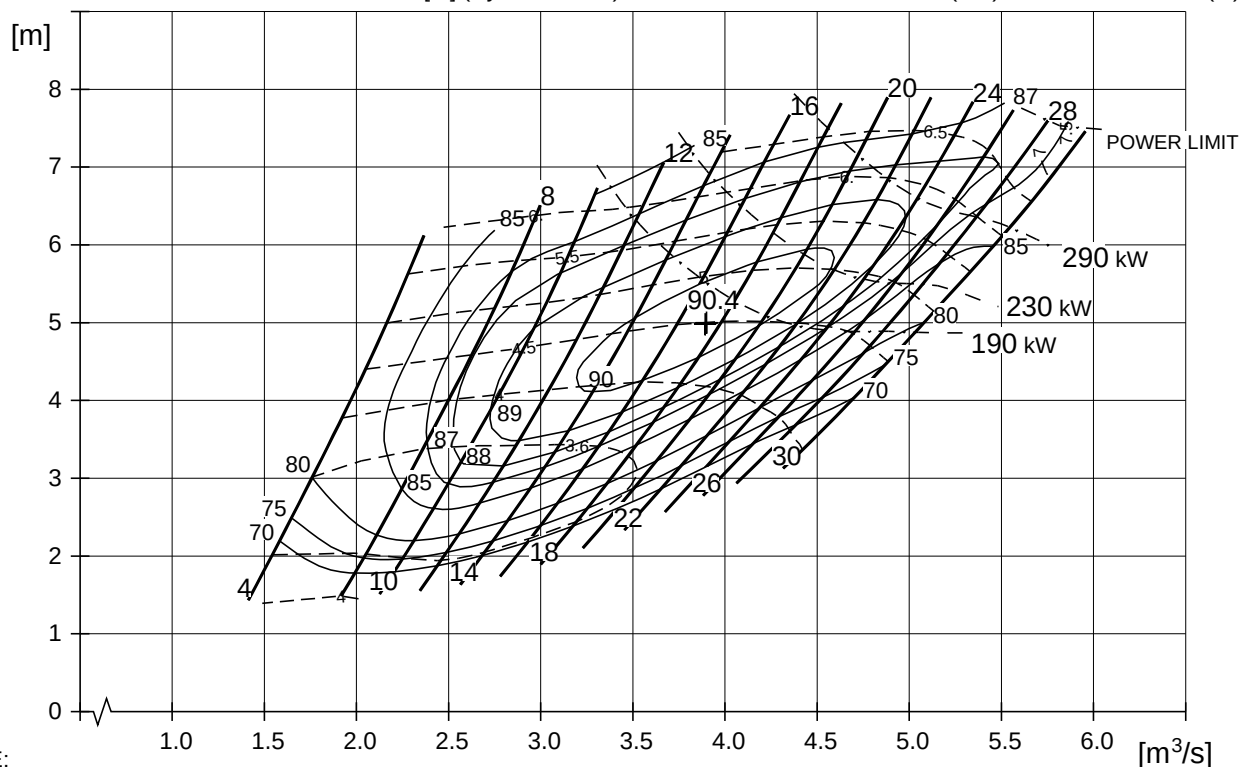
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

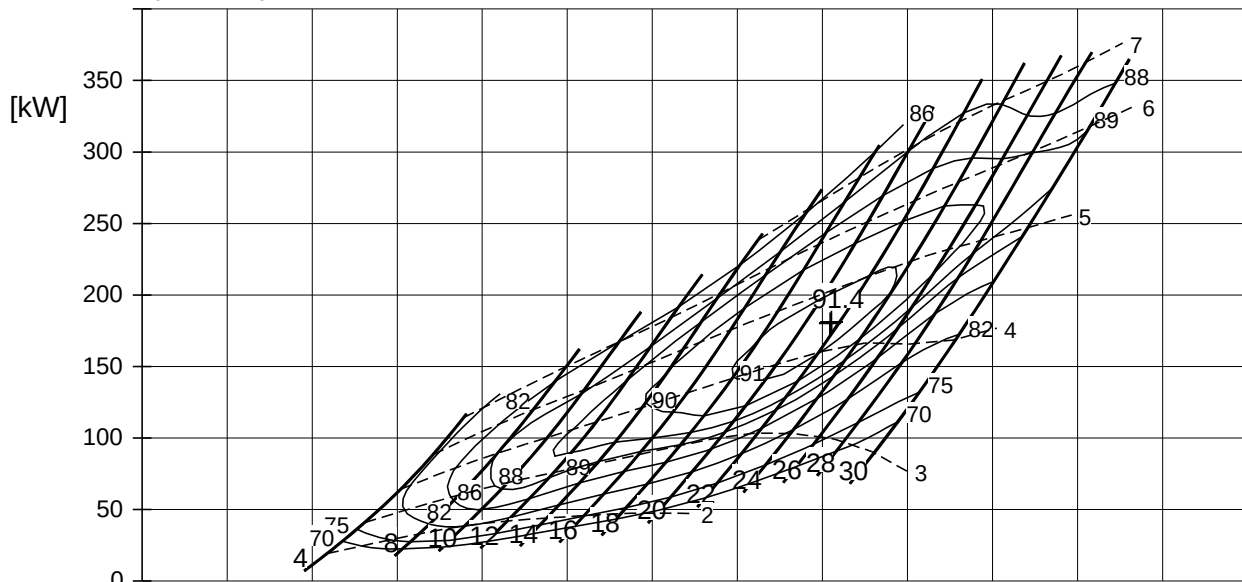
53- 253C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
253 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-4AA	4	190 kW	350-12	1: 6.000	95.7% - 94.8%
765	43-56-4AA	4	230	350-12	1: 6.000	96.2% - 95.4%
835	54-52-4AA	4	290	350-12	1: 6.000	96.7% - 96.0%
865	54-66-4AA	4	375	350-12	1: 6.000	97.1% - 96.6%

POWER (SHAFT)

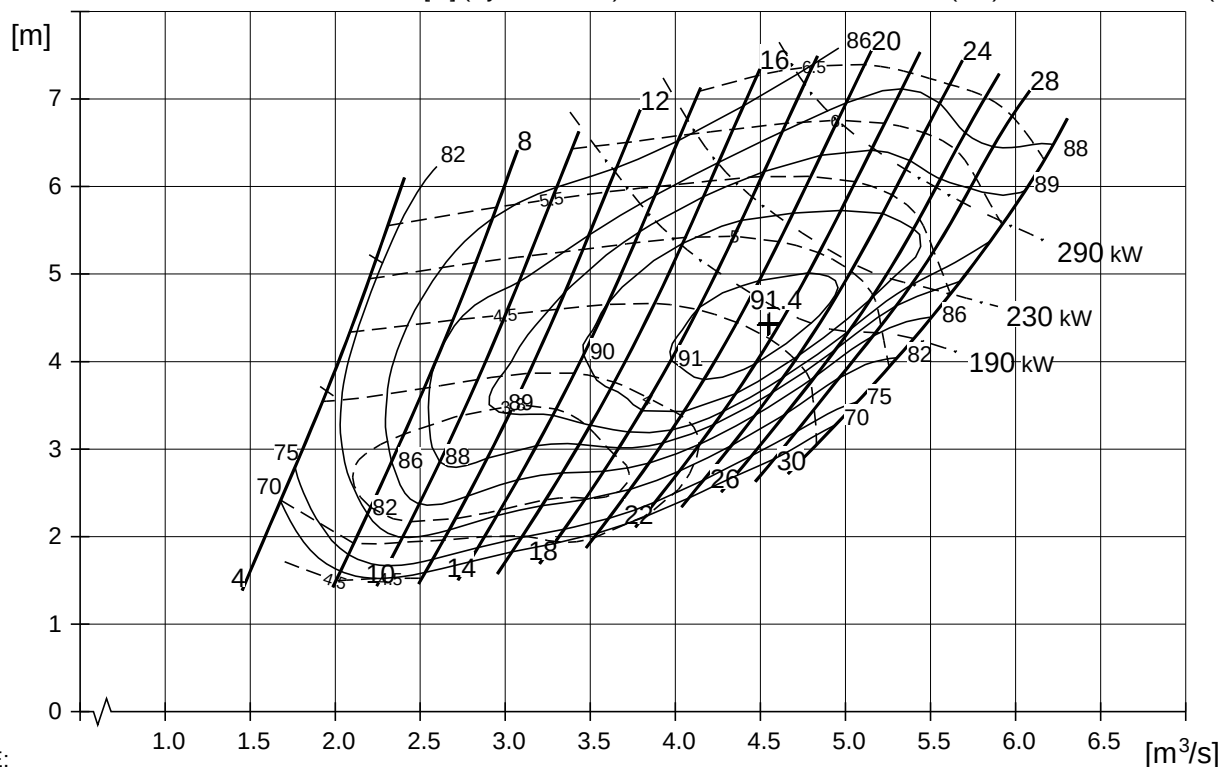
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

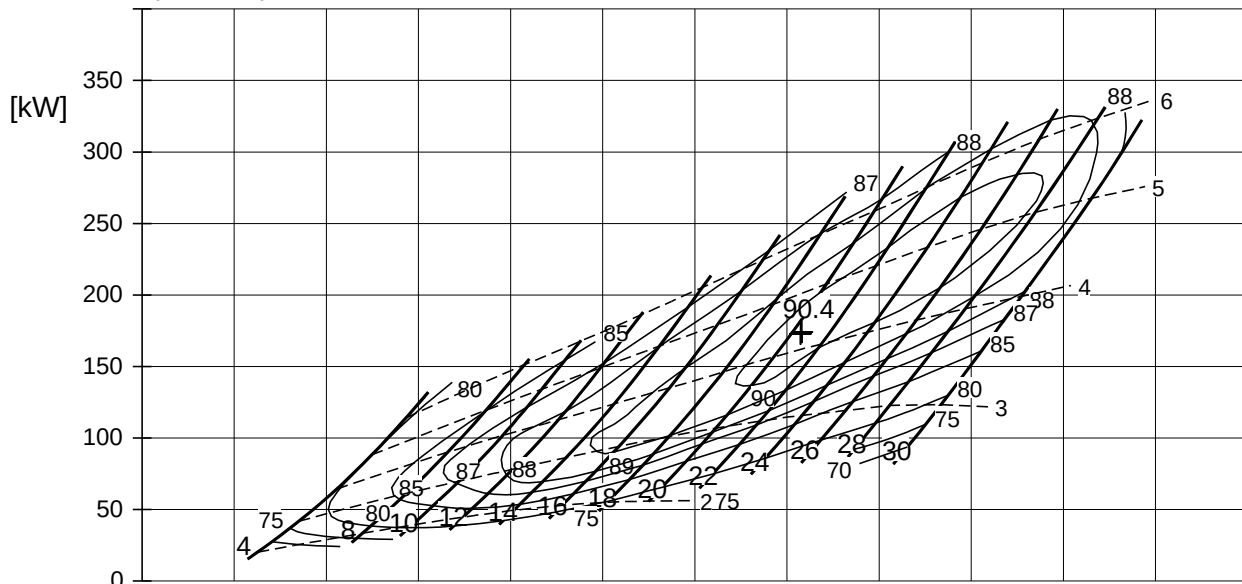
53- 253C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
253 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-4AA	4	190 kW	350-12	1: 6.000	95.7% - 94.8%
765	43-56-4AA	4	230	350-12	1: 6.000	96.2% - 95.4%
835	54-52-4AA	4	290	350-12	1: 6.000	96.7% - 96.0%
865	54-66-4AA	4	375	350-12	1: 6.000	97.1% - 96.6%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)



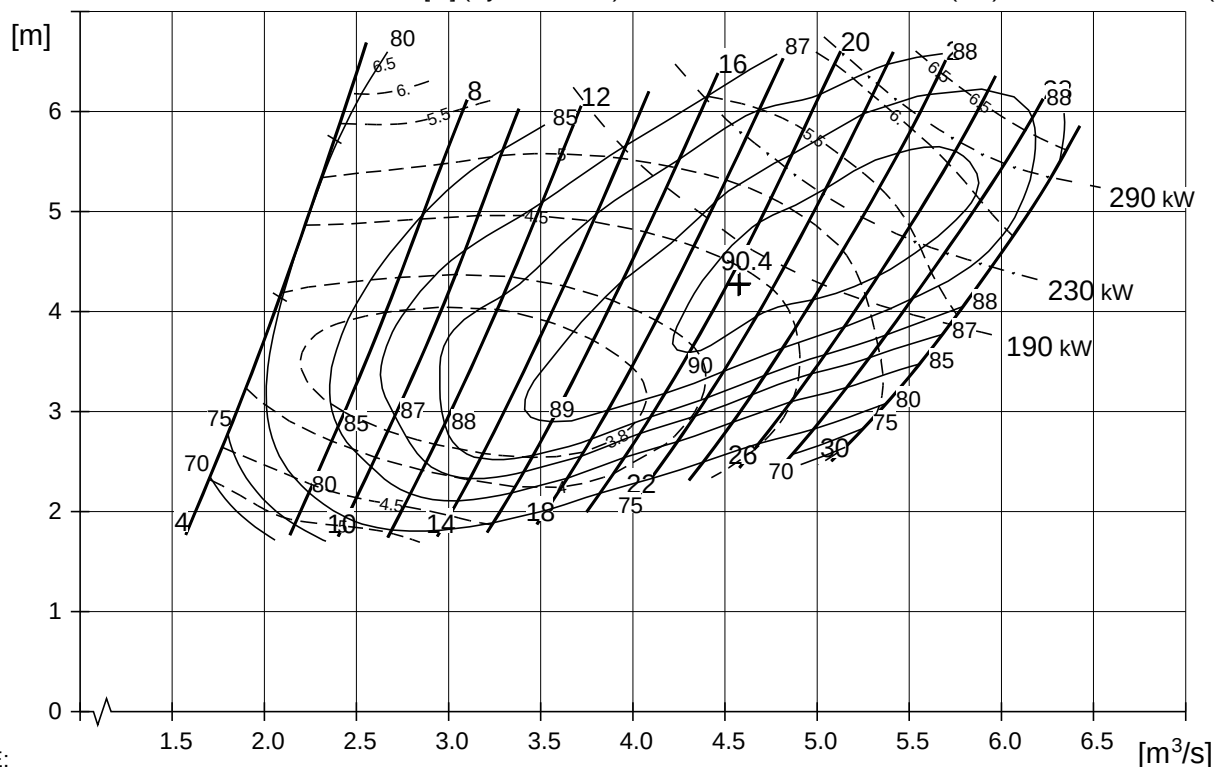
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

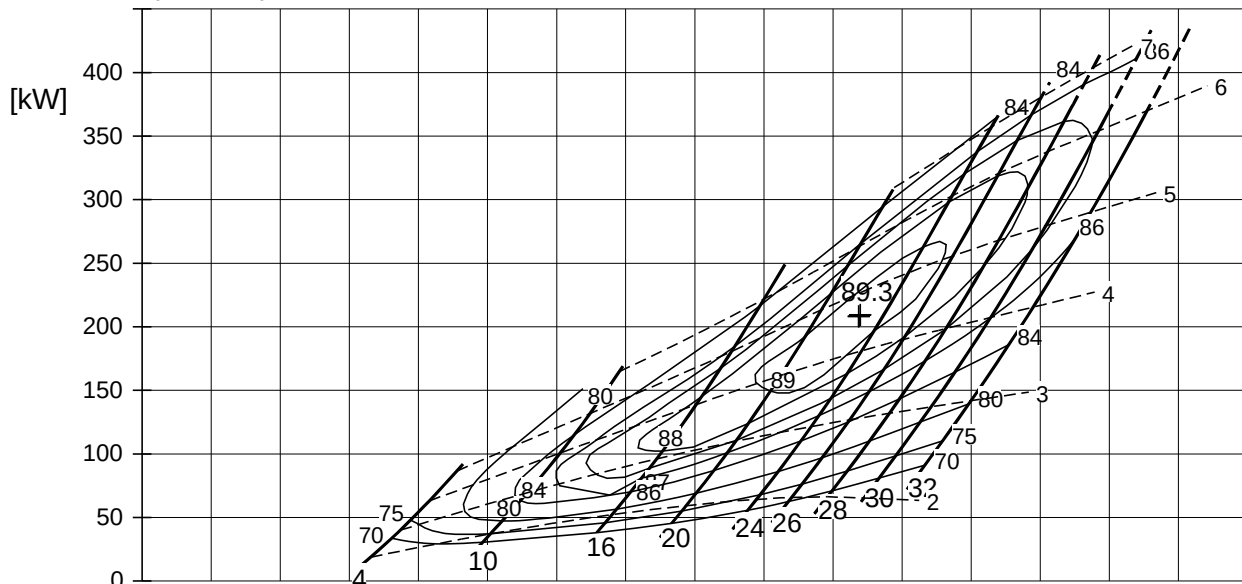
53- 253C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
253 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
735	43-44-4AA	4	190 kW	350-12	1: 6.000	95.7% - 94.8%
765	43-56-4AA	4	230	350-12	1: 6.000	96.2% - 95.4%
835	54-52-4AA	4	290	350-12	1: 6.000	96.7% - 96.0%
865	54-66-4AA	4	375	350-12	1: 6.000	97.1% - 96.6%

POWER (SHAFT)

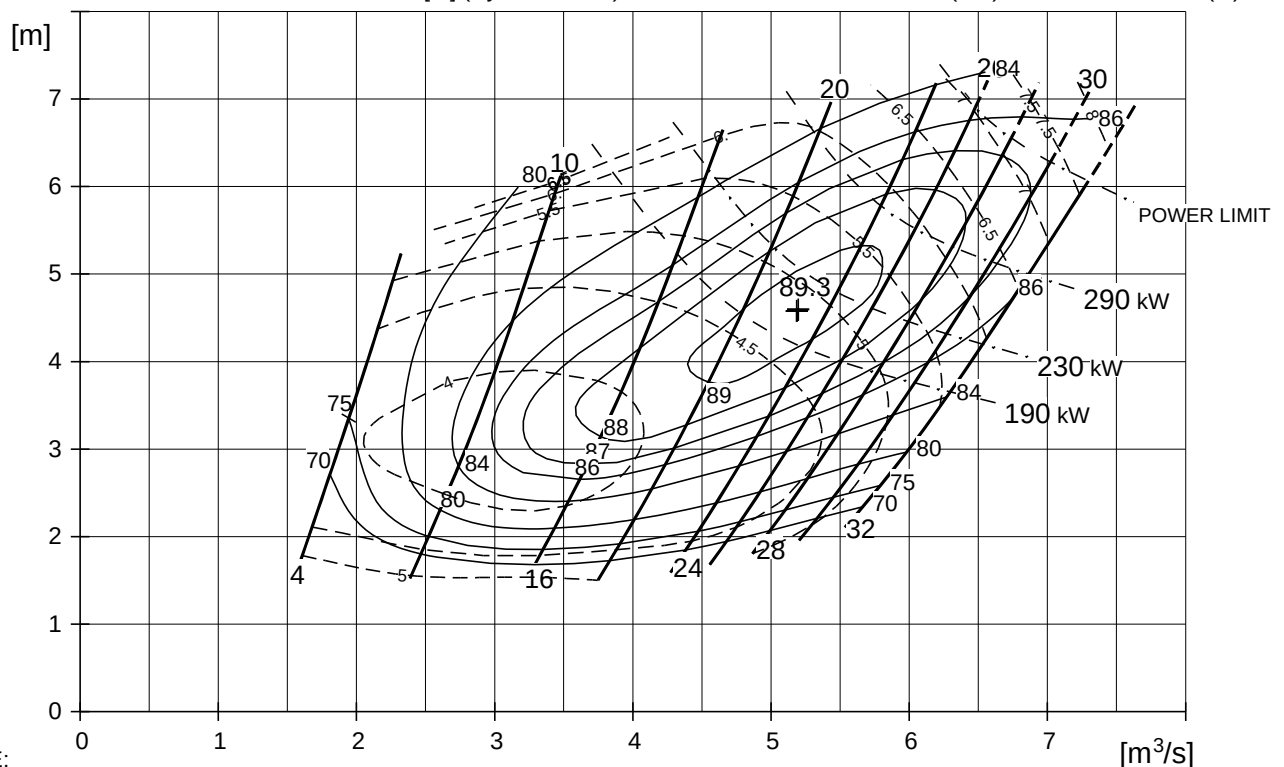
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

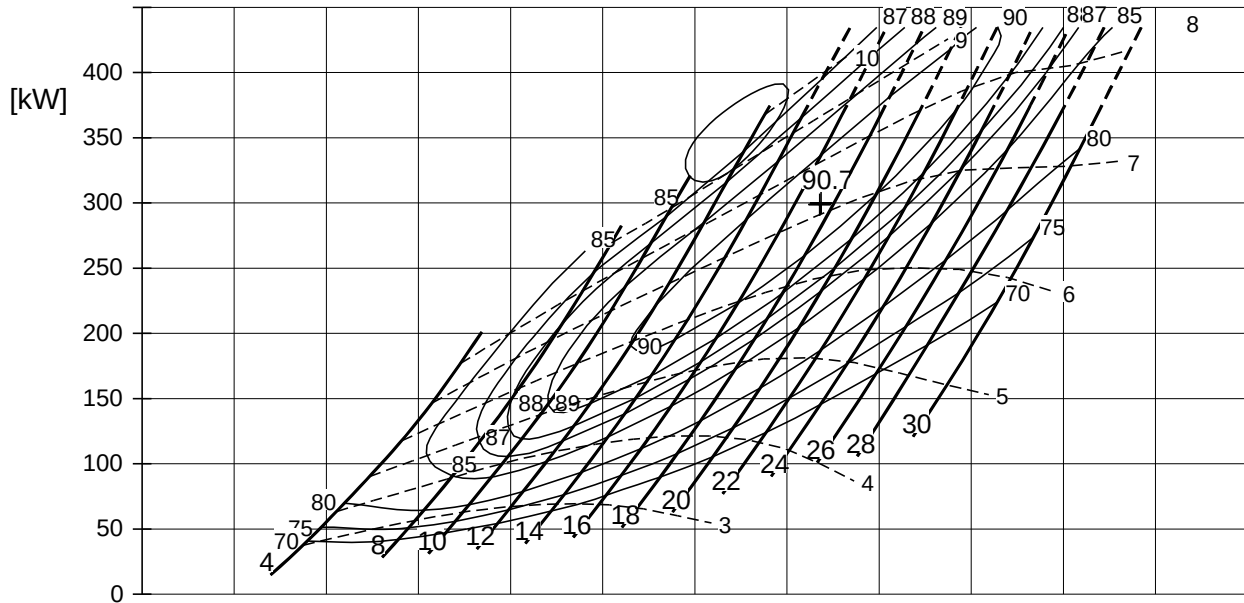
53- 304 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
304 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-4AA	4	230 kW	350-12	1: 5.000	95.8% - 94.9%
835	54-52-4AA	4	290	350-12	1: 5.000	96.3% - 95.6%
865	54-66-4AA	4	375	350-12	1: 5.000	96.8% - 96.3%

POWER (SHAFT)

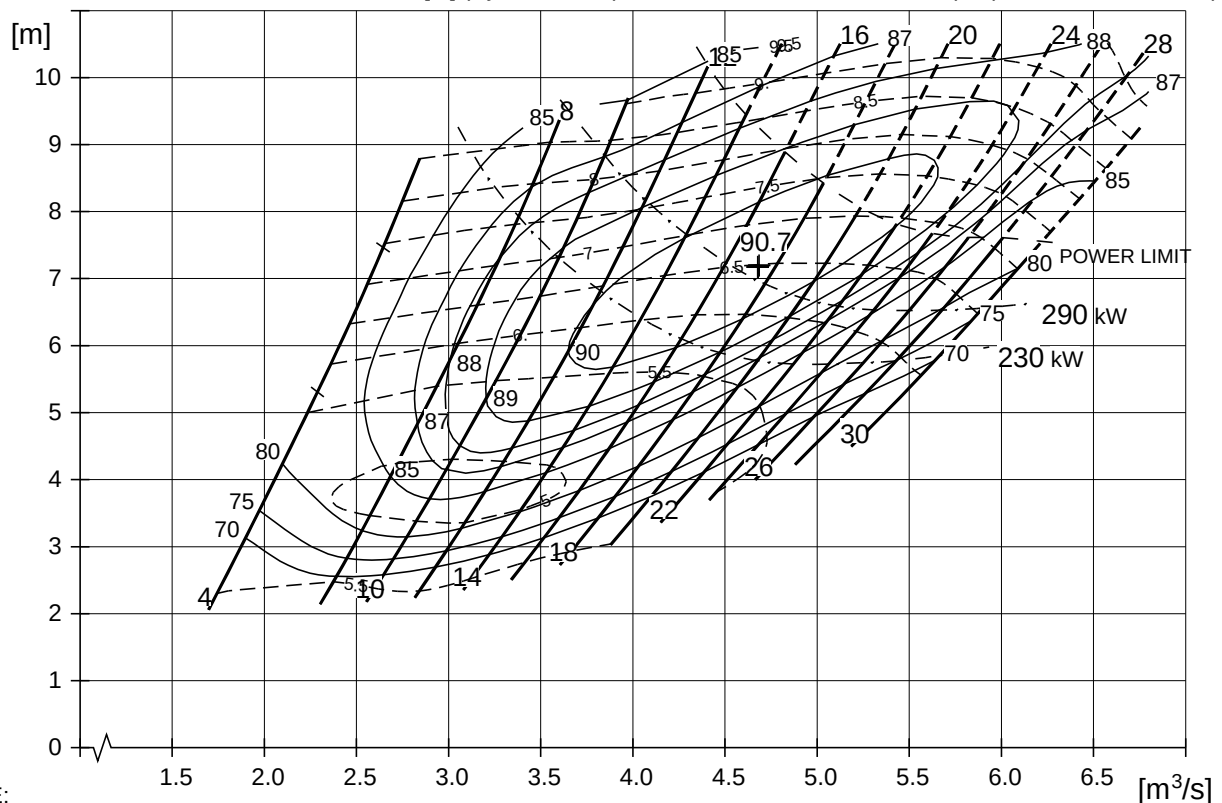
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

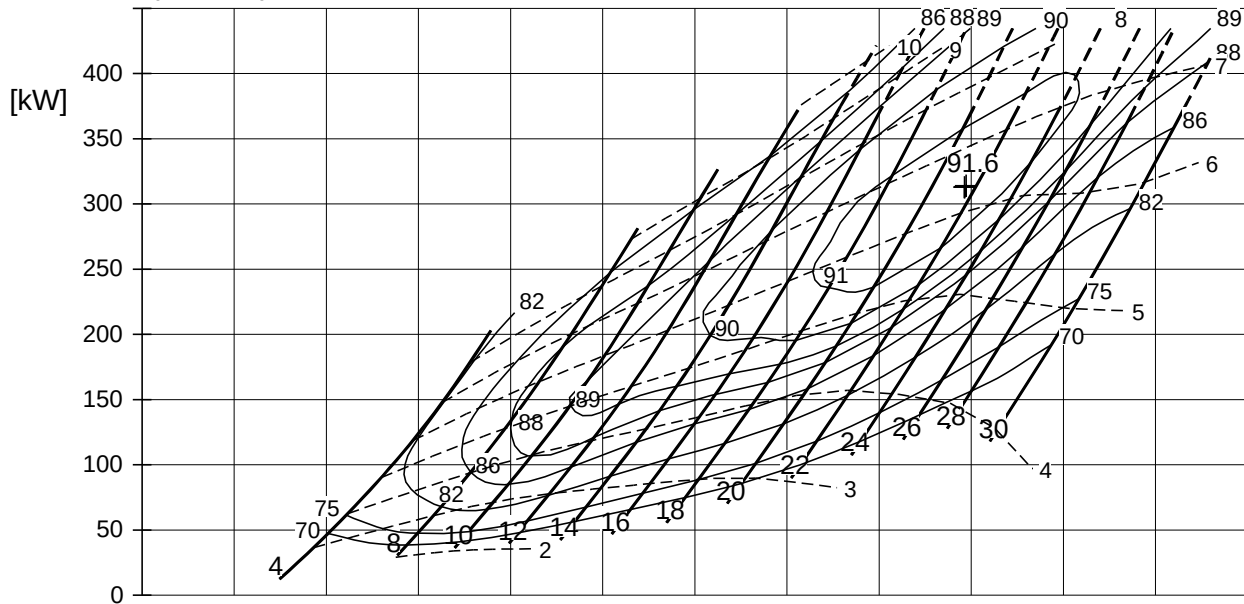
53- 304 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
304 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-4AA	4	230 kW	350-12	1: 5.000	95.8% - 94.9%
835	54-52-4AA	4	290	350-12	1: 5.000	96.3% - 95.6%
865	54-66-4AA	4	375	350-12	1: 5.000	96.8% - 96.3%

POWER (SHAFT)

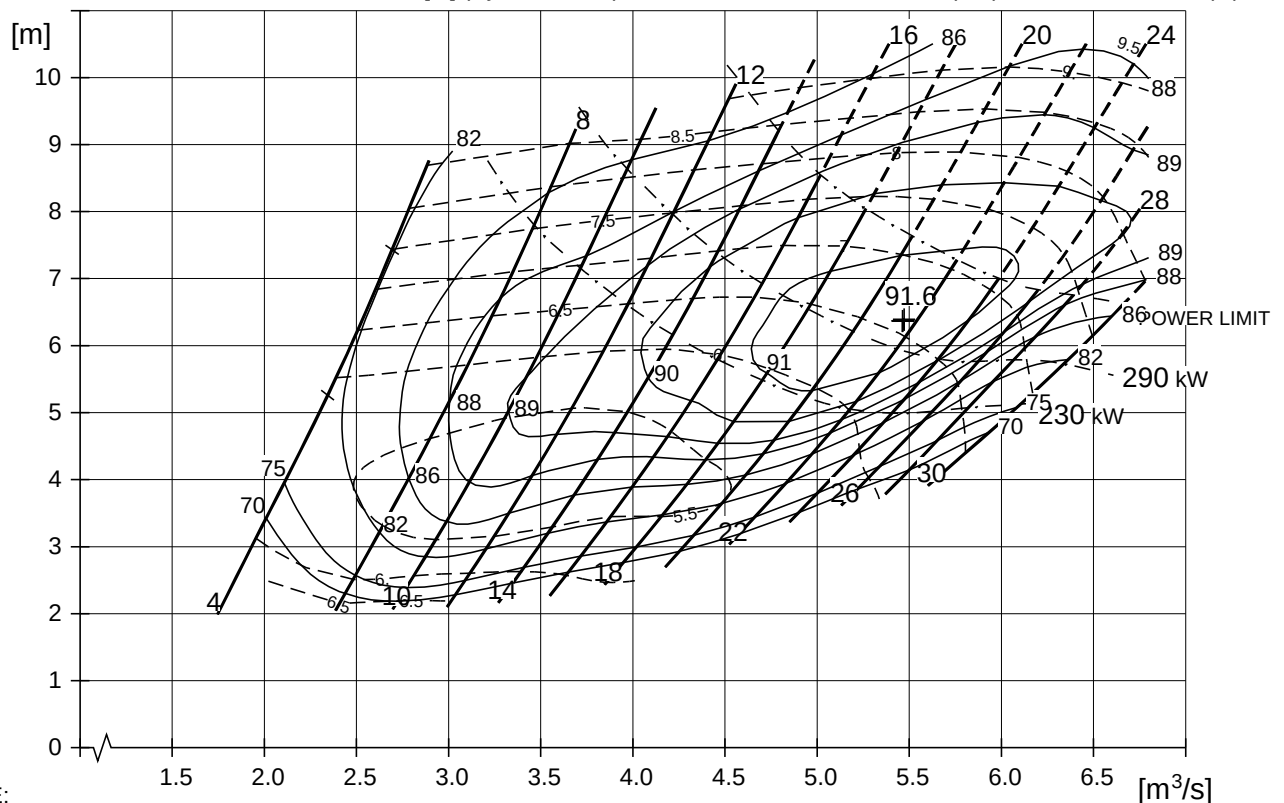
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

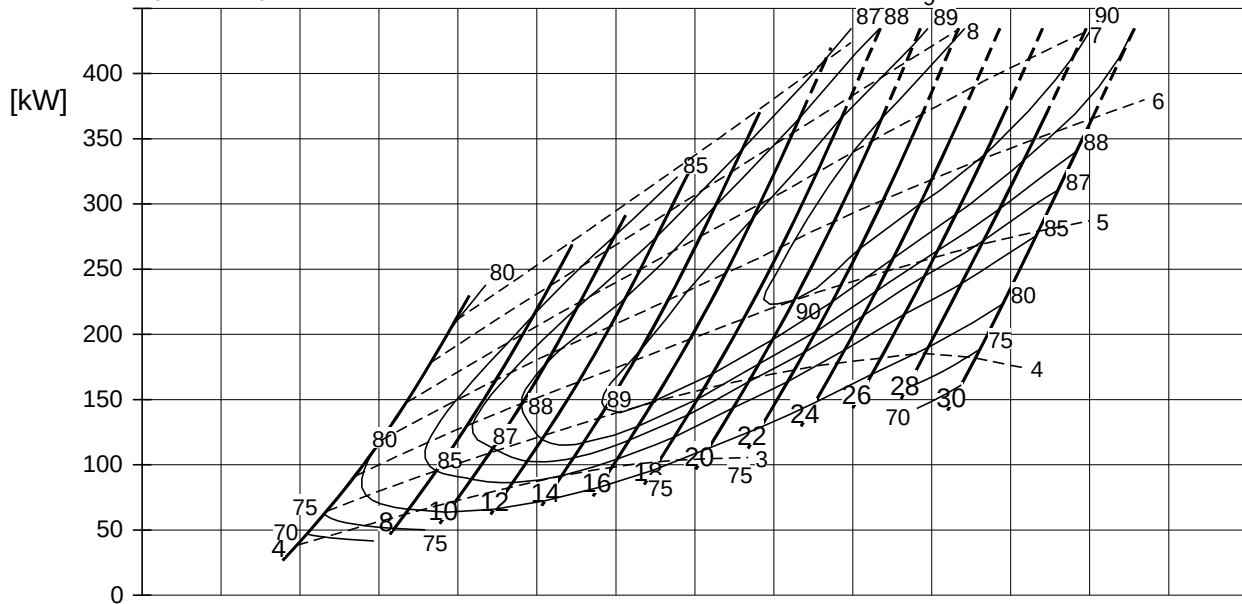
53- 304 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
304 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-4AA	4	230 kW	350-12	1: 5.000	95.8% - 94.9%
835	54-52-4AA	4	290	350-12	1: 5.000	96.3% - 95.6%
865	54-66-4AA	4	375	350-12	1: 5.000	96.8% - 96.3%

POWER (SHAFT)

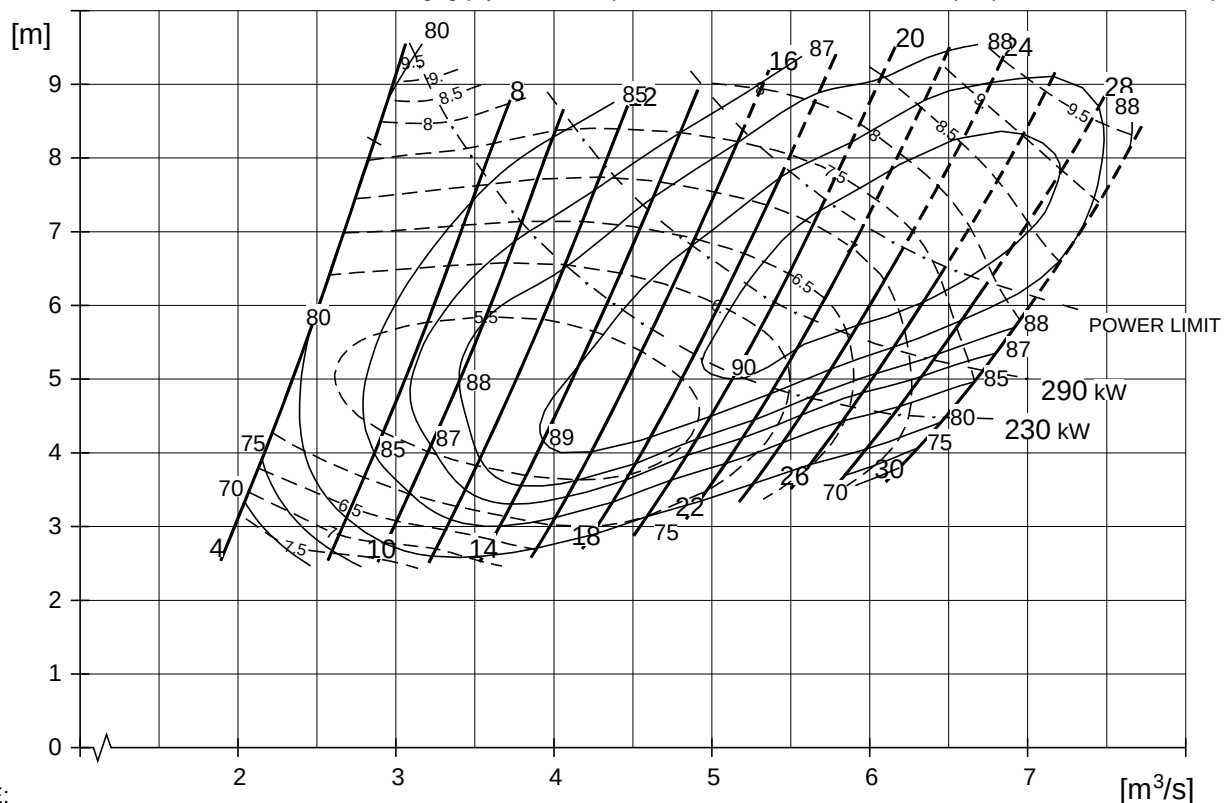
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

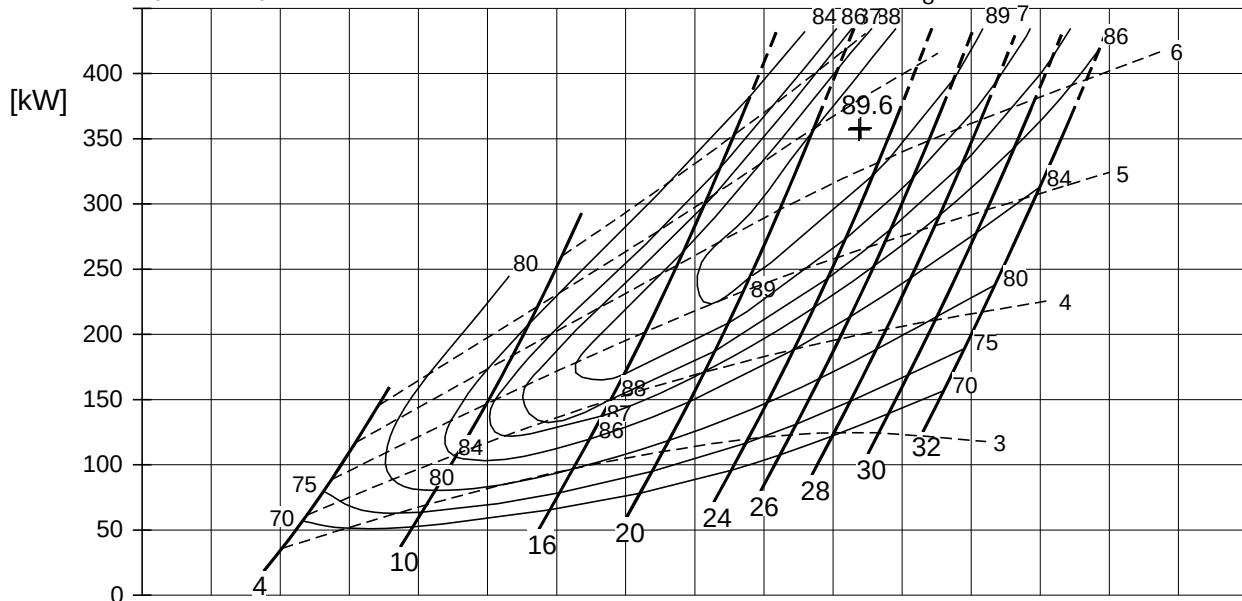
CURVE NO

53- 304 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
304 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 degDRIVE UNIT
765
835
865GENERATOR
43-56-4AA
54-52-4AA
54-66-4AAPOLES
4
4
4GEN. POWER
230 kW
290
375GEAR TYPE
350-12
350-12
350-12GEAR RATIO
1: 5.000
1: 5.000
1: 5.000GEAR EFFICIENCY (Load:1/1-3/4)
95.8% - 94.9%
96.3% - 95.6%
96.8% - 96.3%

POWER (SHAFT)

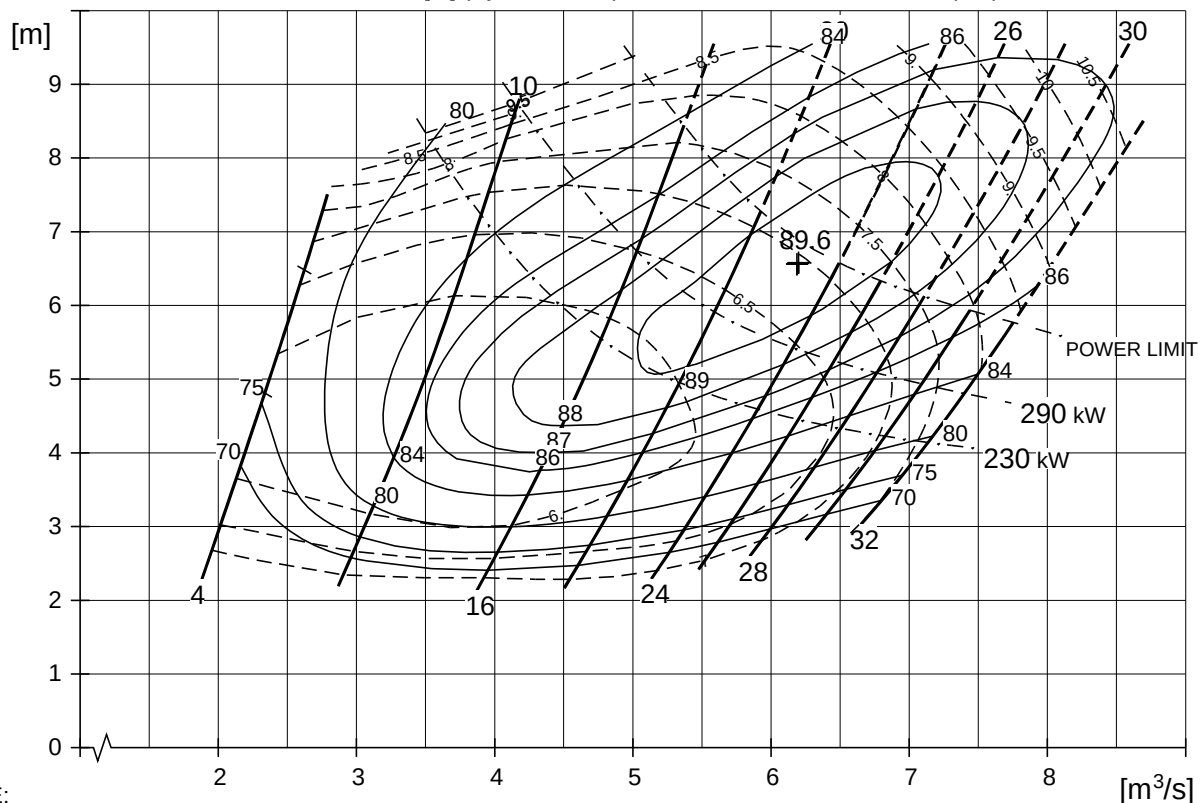
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

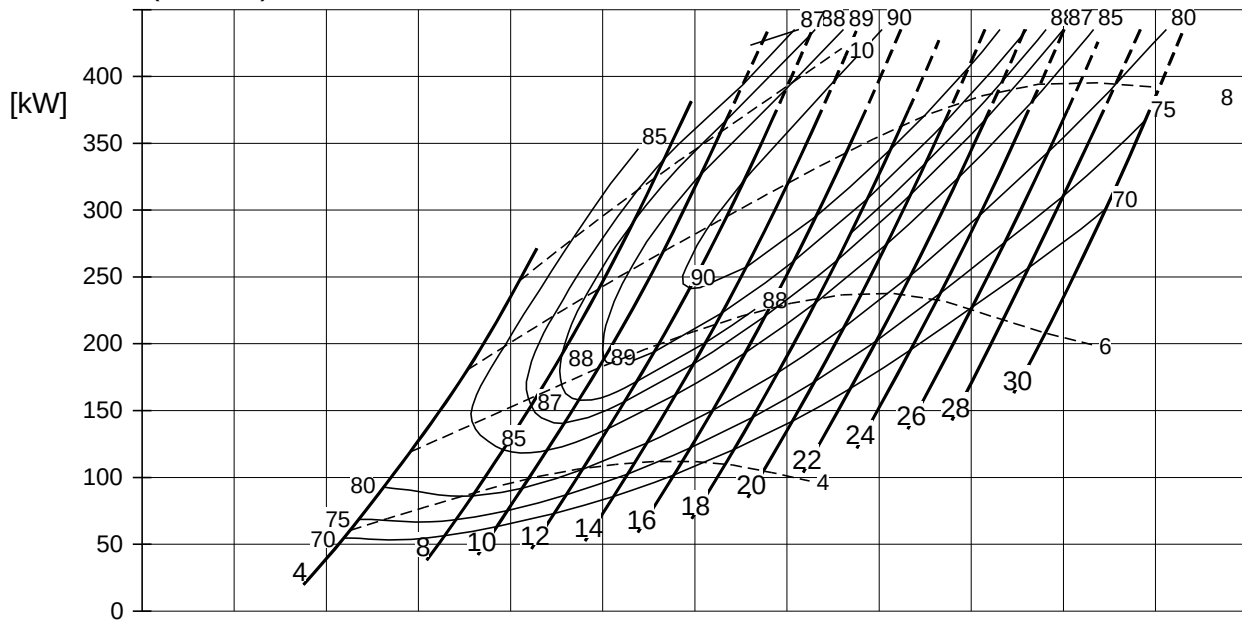
CURVE NO

53- 336 C4E

DATE 2016-02-17	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 336 RPM			
IMPELLER/HUB DIAMETER 1200 / 550 mm	GUIDE VANE(S) 50 deg	NO. OF BLADES 4		AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 30 deg		
DRIVE UNIT 835	GENERATOR 54-52-4AA	POLES 4	GEN. POWER 290 kW	GEAR TYPE 350-13	GEAR RATIO 1: 4.500	GEAR EFFICIENCY (Load:1/1-3/4) 97.2% - 96.7%
865	54-66-4AA	4	375	350-13	1: 4.500	97.5% - 97.1%

POWER (SHAFT)

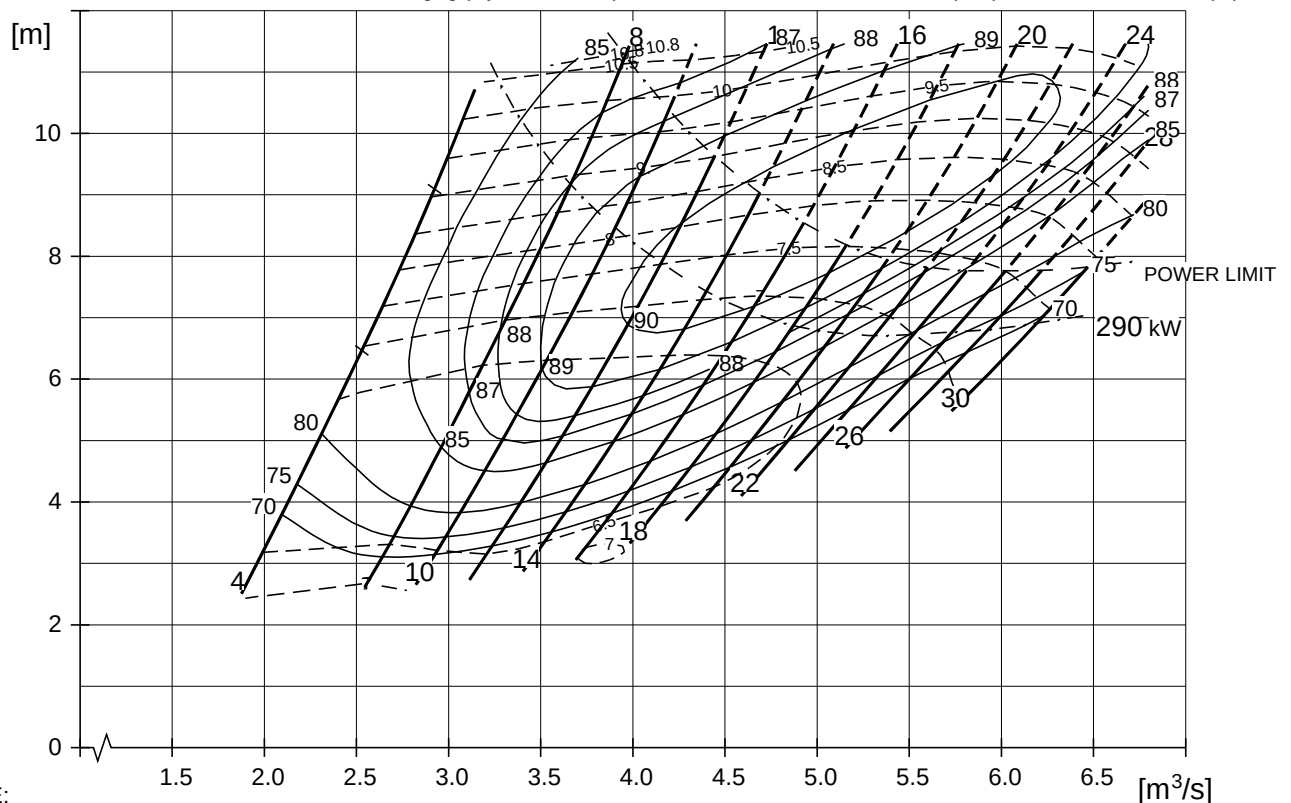
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

CURVE NO

53- 336 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
336 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
835GENERATOR
54-52-4AAPOLES
4GEN. POWER
290 kWGEAR TYPE
350-13GEAR RATIO
1: 4.500GEAR EFFICIENCY (Load:1/1-3/4)
97.2% - 96.7%

865

54-66-4AA

4

375

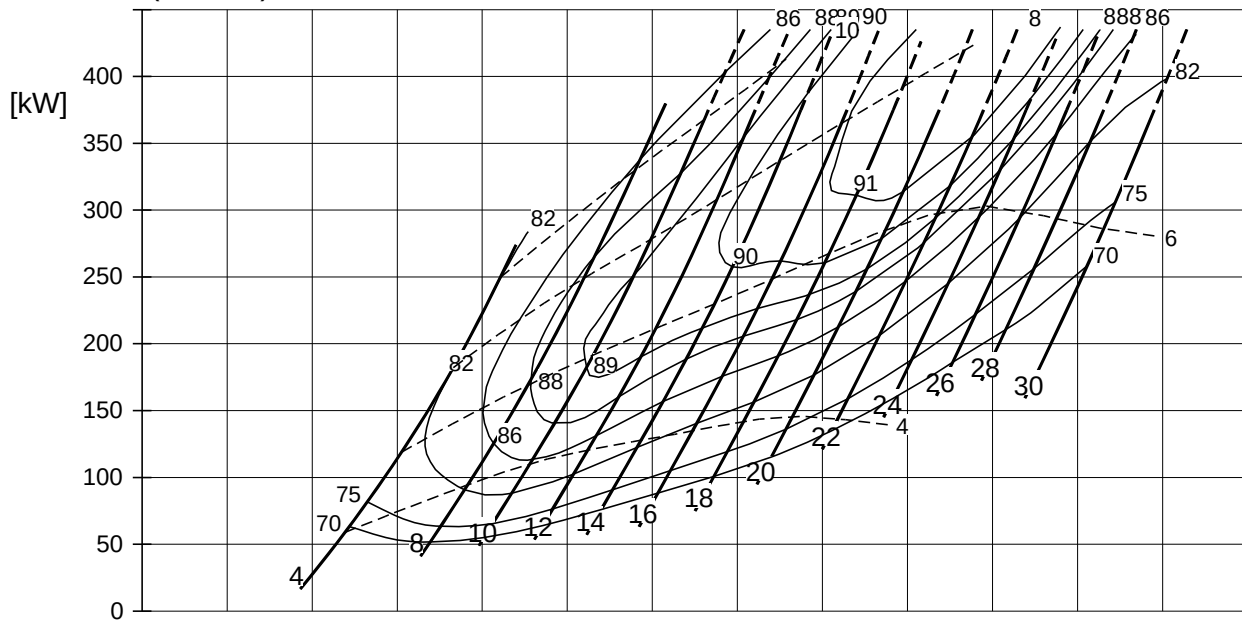
350-13

1: 4.500

97.5% - 97.1%

POWER (SHAFT)

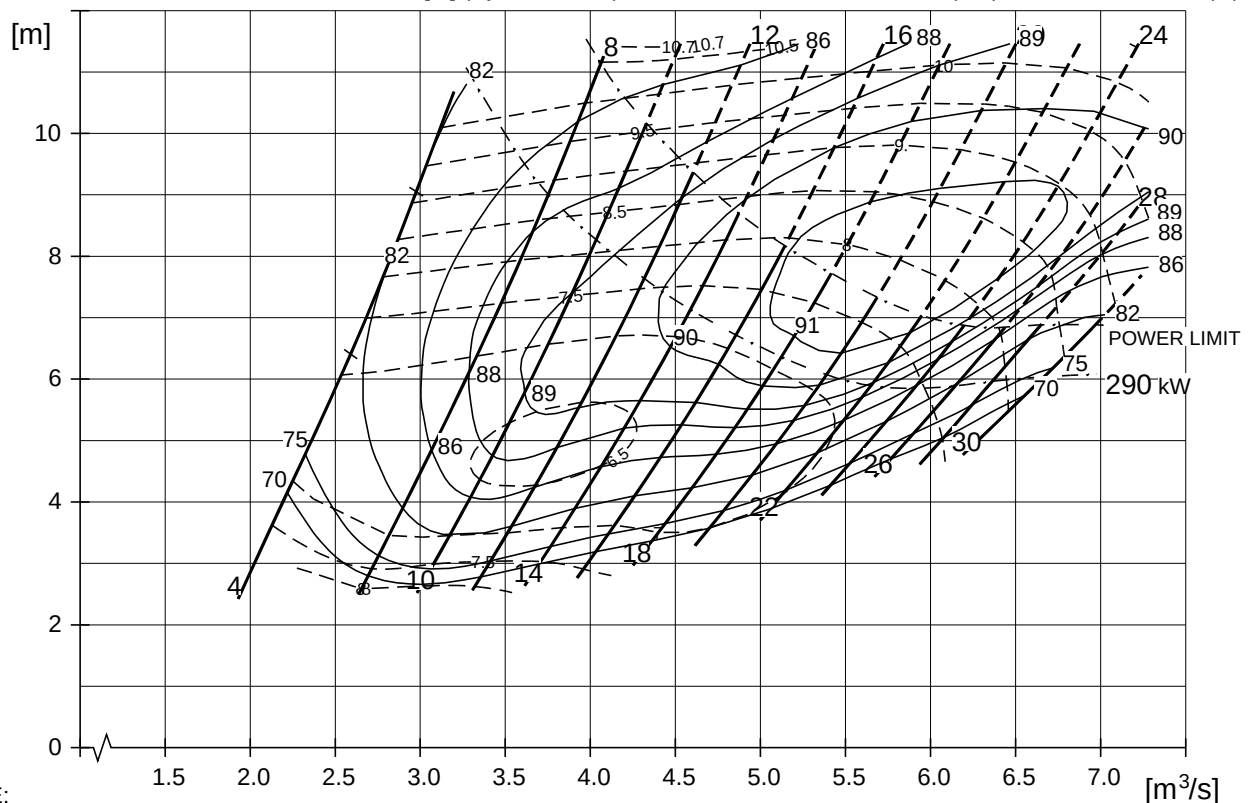
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

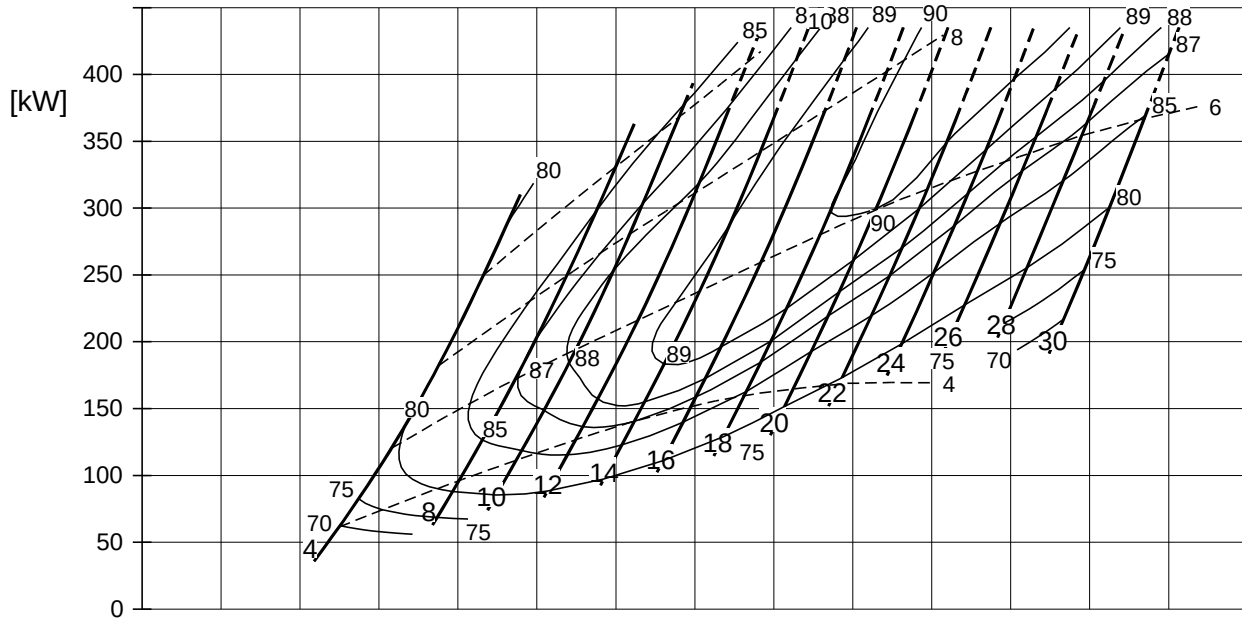
EL 7620

CURVE NO

53- 336 C4EDATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
336 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** degDRIVE UNIT
835GENERATOR
54-52-4AAPOLES
4GEN. POWER
290 kWGEAR TYPE
350-13GEAR RATIO
1: 4.500GEAR EFFICIENCY (Load:1/1-3/4)
97.2% - 96.7%**865****54-66-4AA****4****375****350-13****1: 4.500****97.5% - 97.1%**

POWER (SHAFT)

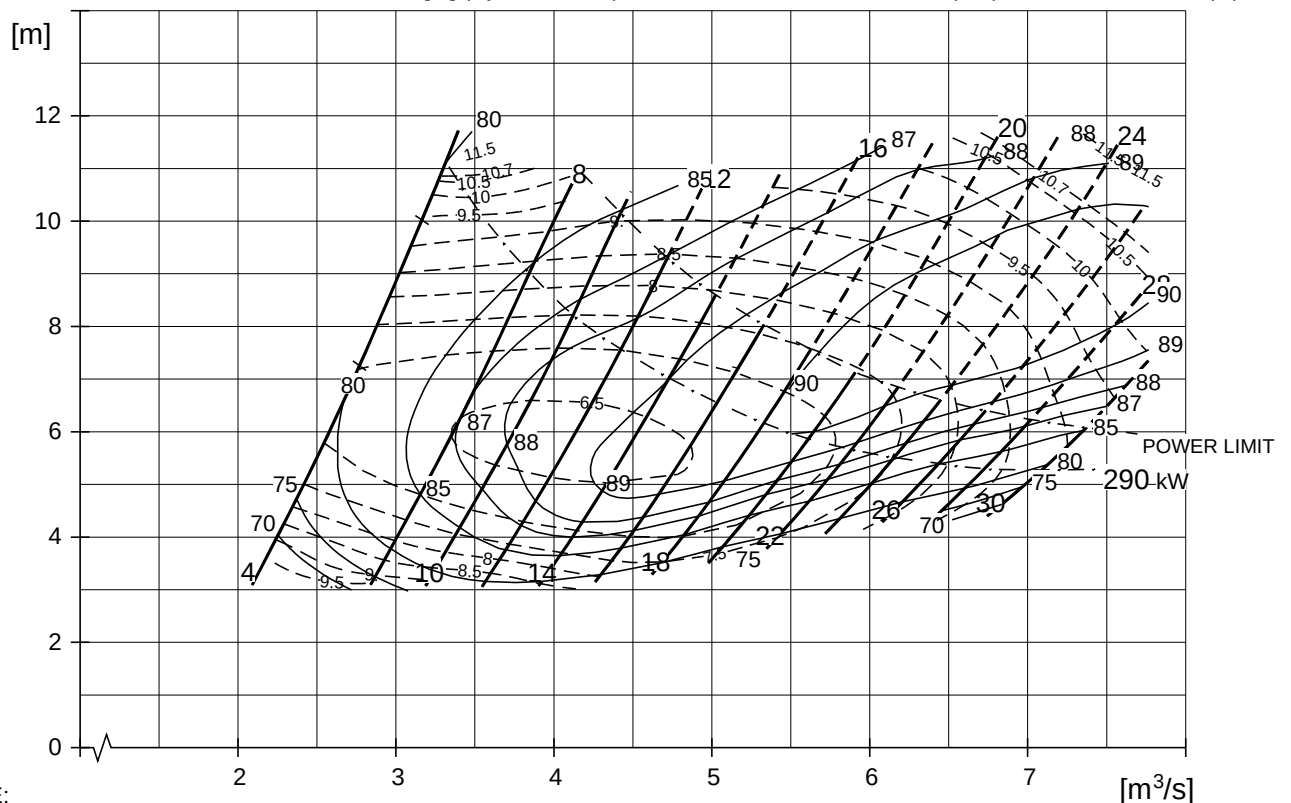
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

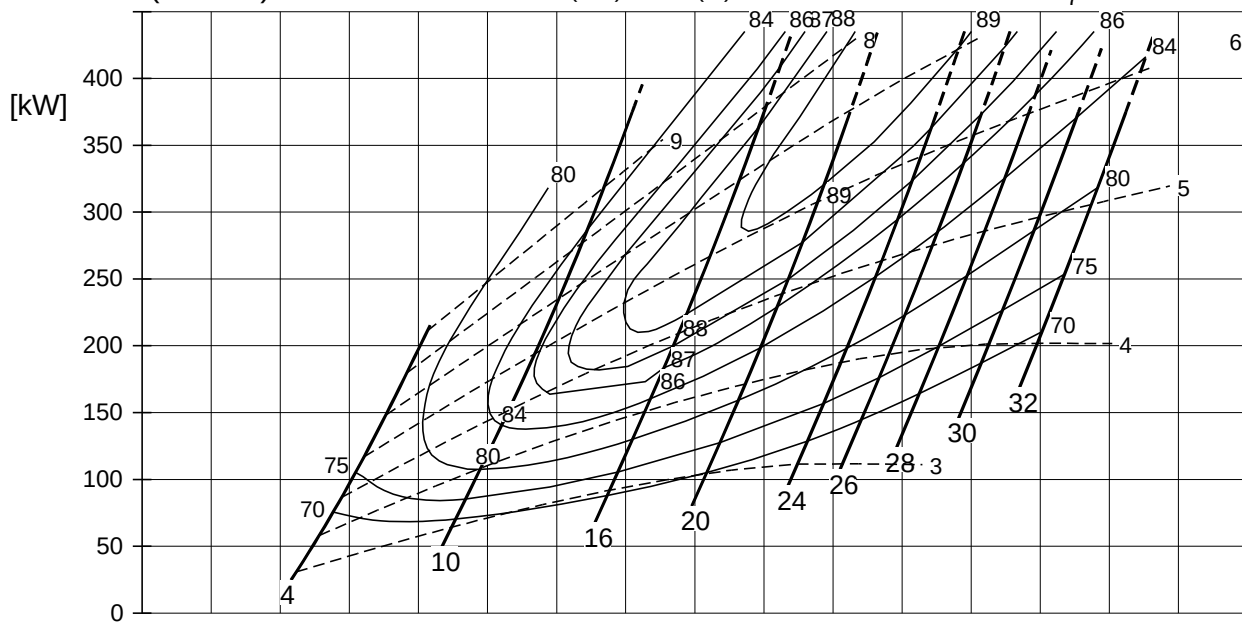
CURVE NO

53- 336 C4E

DATE 2016-02-17	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 336 RPM			
IMPELLER/HUB DIAMETER 1200 / 550 mm	GUIDE VANE(S) 70 deg		NO. OF BLADES 4		AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 32 deg	
DRIVE UNIT 835	GENERATOR 54-52-4AA	POLES 4	GEN. POWER 290 kW	GEAR TYPE 350-13	GEAR RATIO 1: 4.500	GEAR EFFICIENCY (Load:1/1-3/4) 97.2% - 96.7%
865	54-66-4AA	4	375	350-13	1: 4.500	97.5% - 97.1%

POWER (SHAFT)

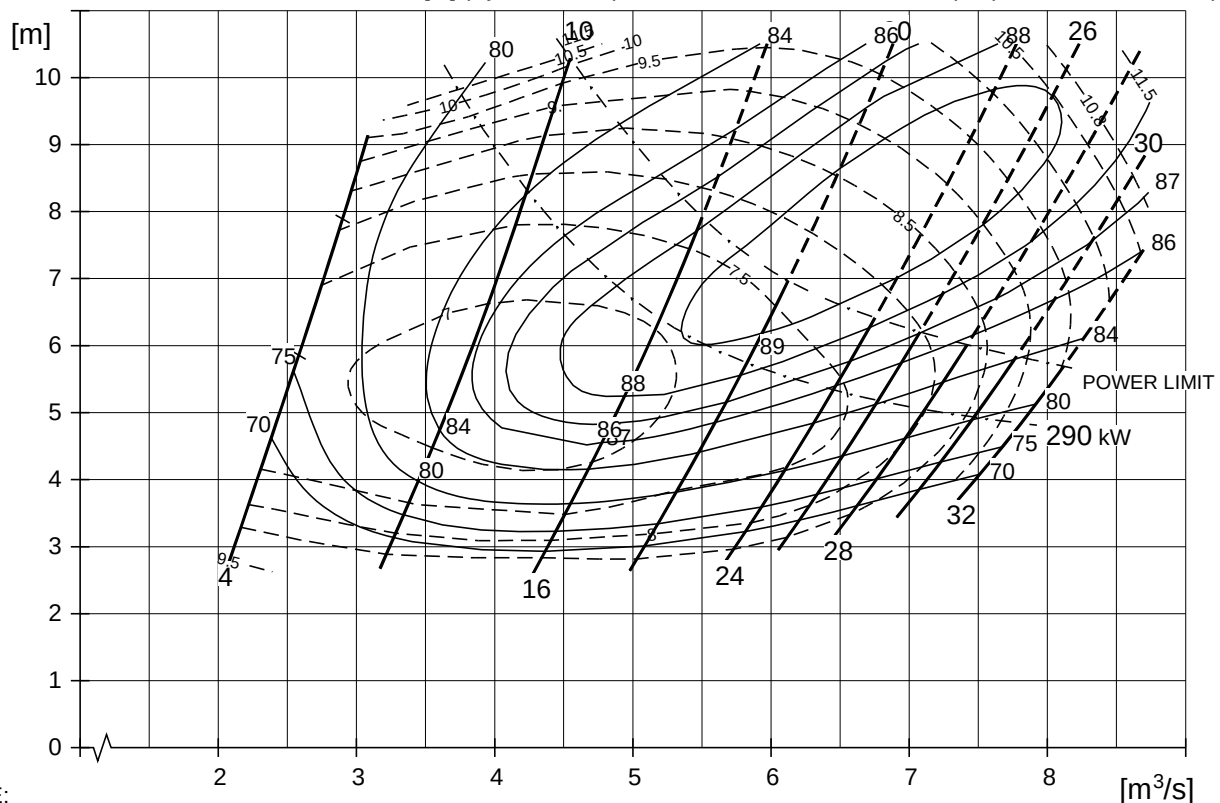
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

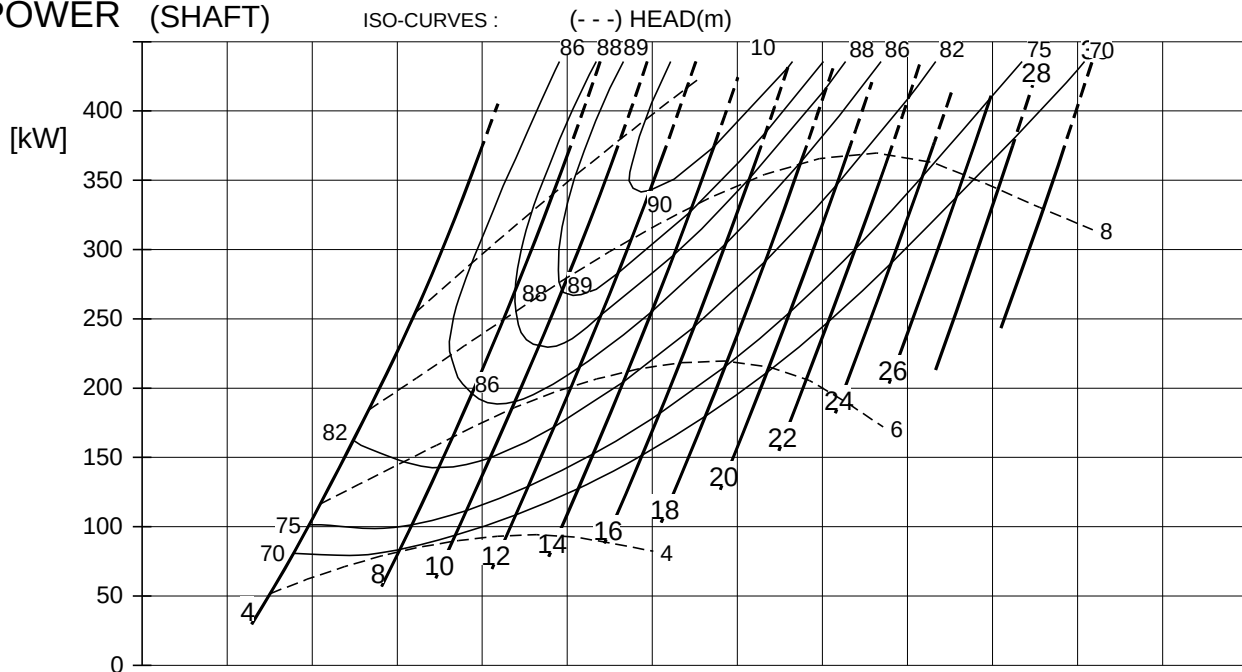
EL 7620

CURVE NO

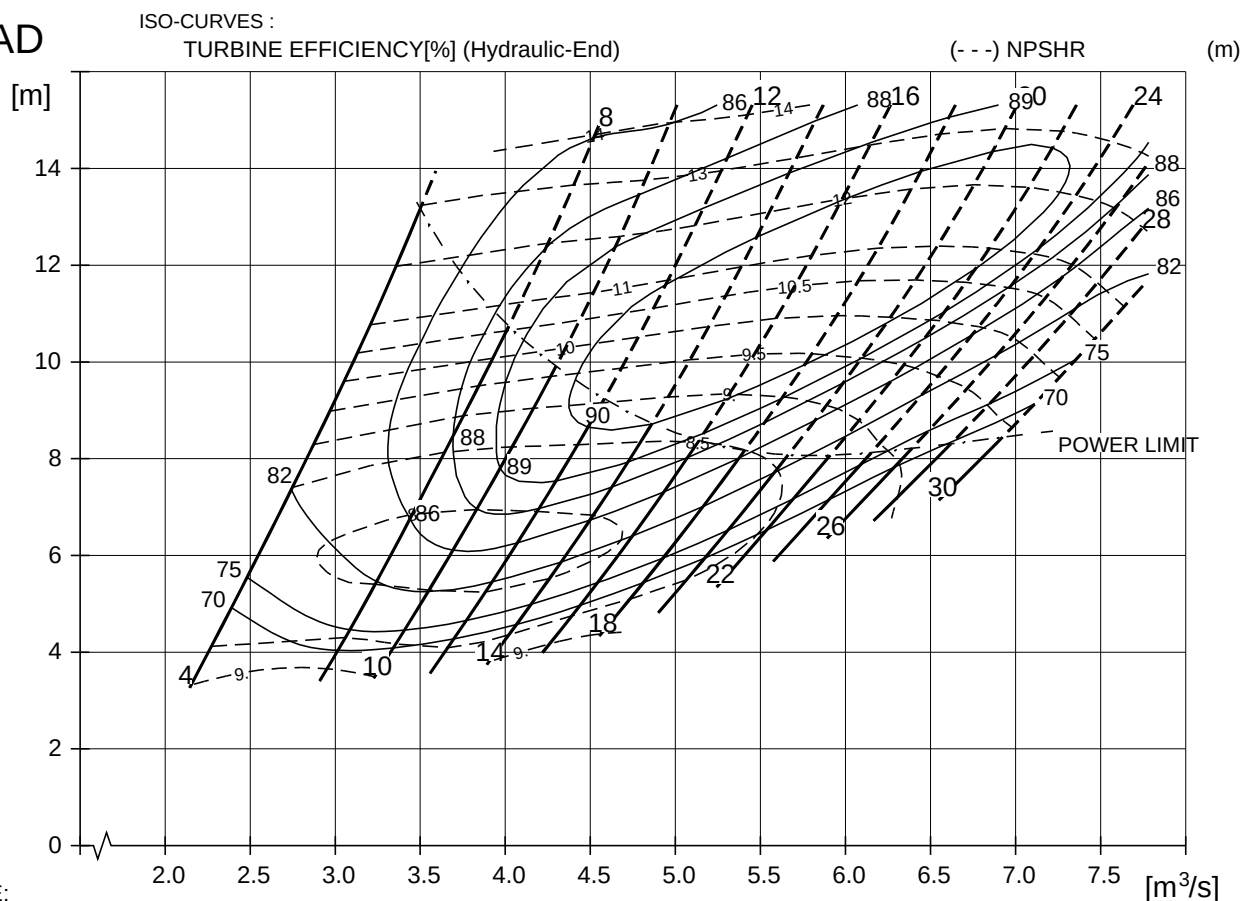
53- 384 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
384 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
50 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
865GENERATOR
54-66-4AAPOLES
4GEN. POWER
375 kWGEAR TYPE
350-13GEAR RATIO
1: 4.034GEAR EFFICIENCY (Load:1/1-3/4)
97.4% - 97.0%

POWER (SHAFT)



HEAD



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

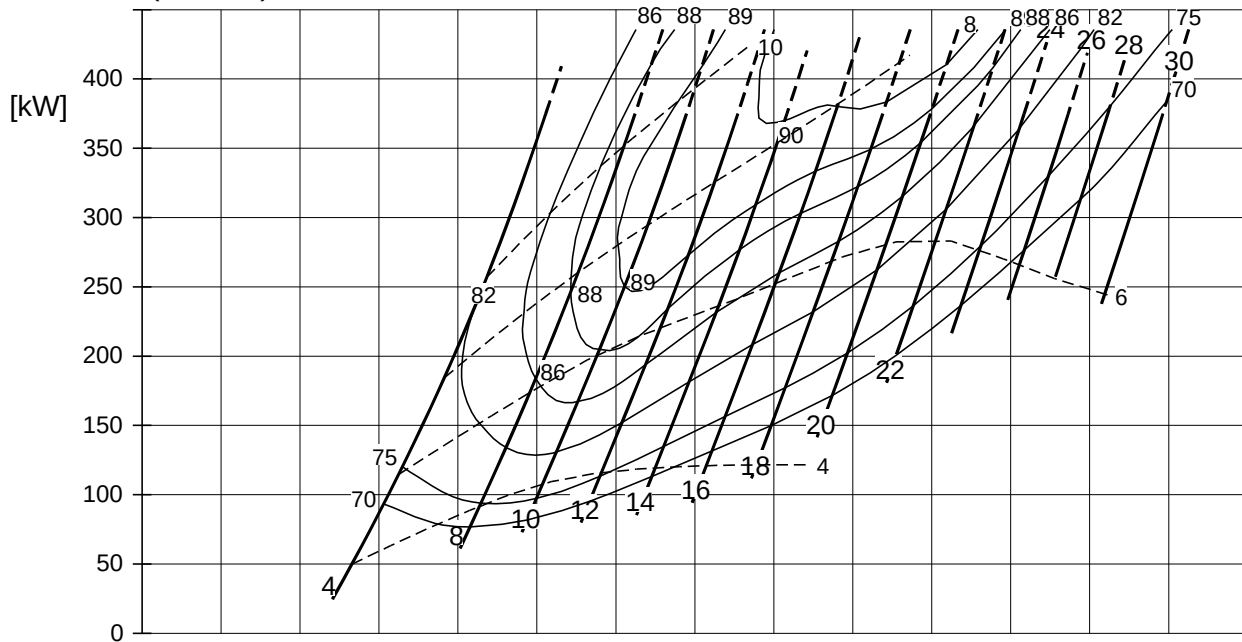
CURVE NO

53- 384 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
384 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
865GENERATOR
54-66-4AAPOLES
4GEN. POWER
375 kWGEAR TYPE
350-13GEAR RATIO
1: 4.034GEAR EFFICIENCY (Load:1/1-3/4)
97.4% - 97.0%

POWER (SHAFT)

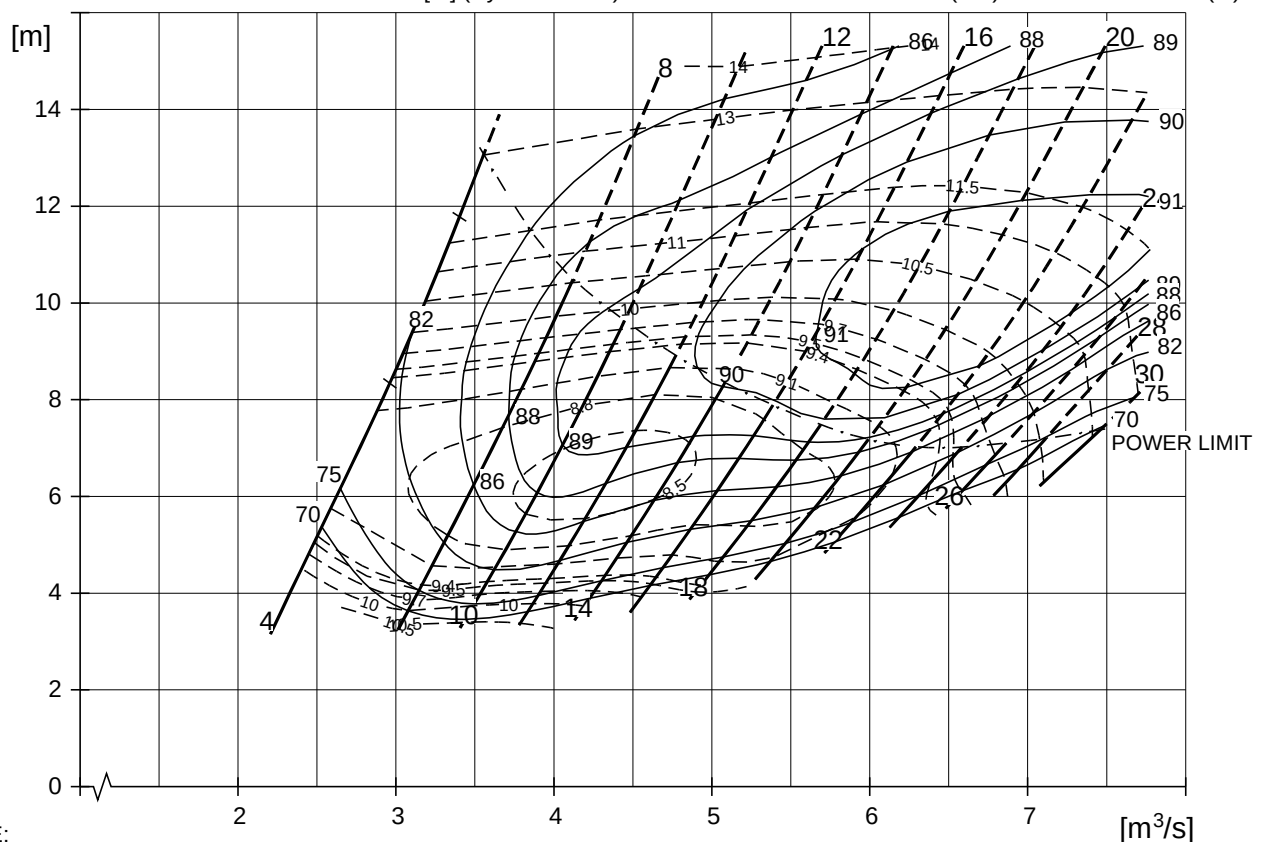
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7620

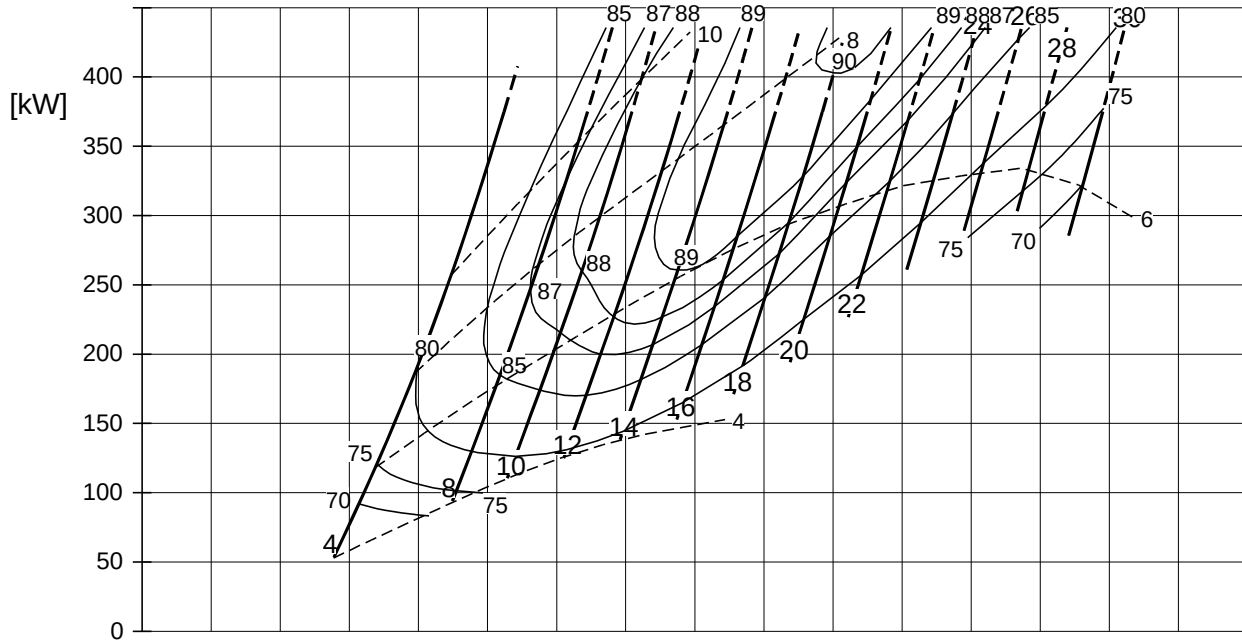
CURVE NO

53- 384 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
384 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
865GENERATOR
54-66-4AAPOLES
4GEN. POWER
375 kWGEAR TYPE
350-13GEAR RATIO
1: 4.034GEAR EFFICIENCY (Load:1/1-3/4)
97.4% - 97.0%

POWER (SHAFT)

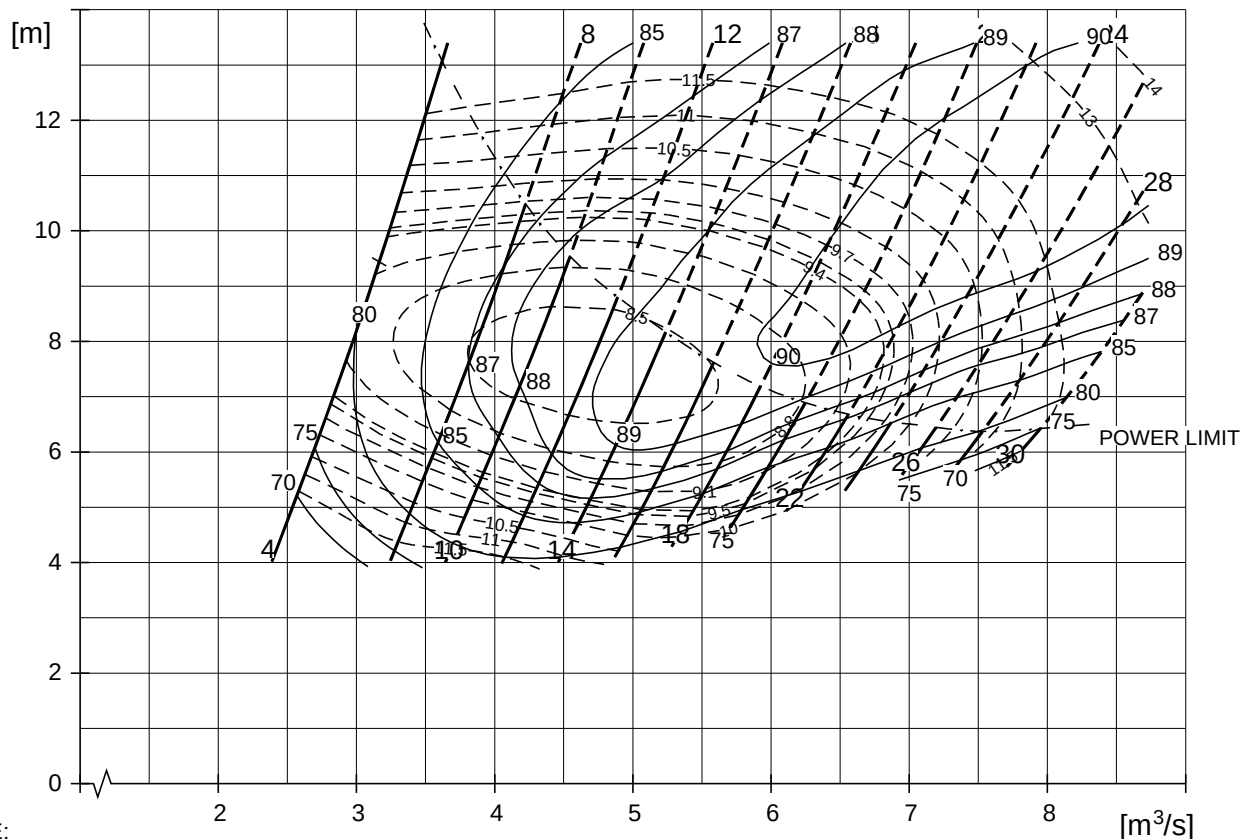
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

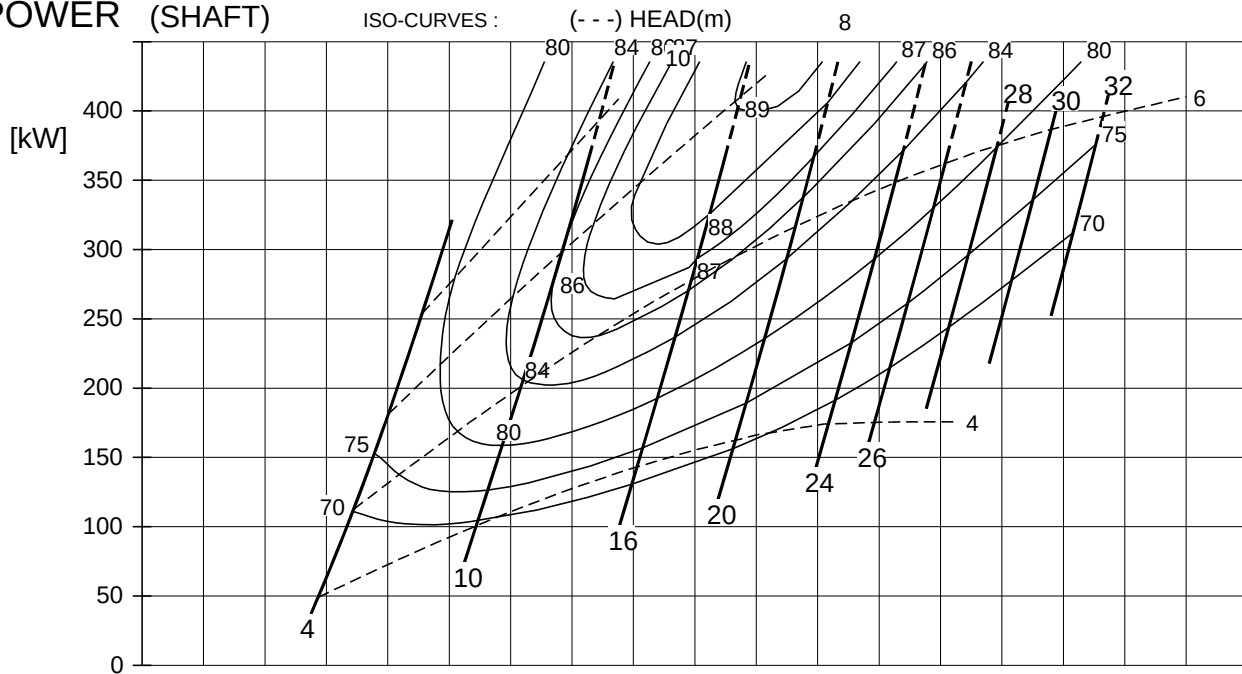
PROD.

EL 7620

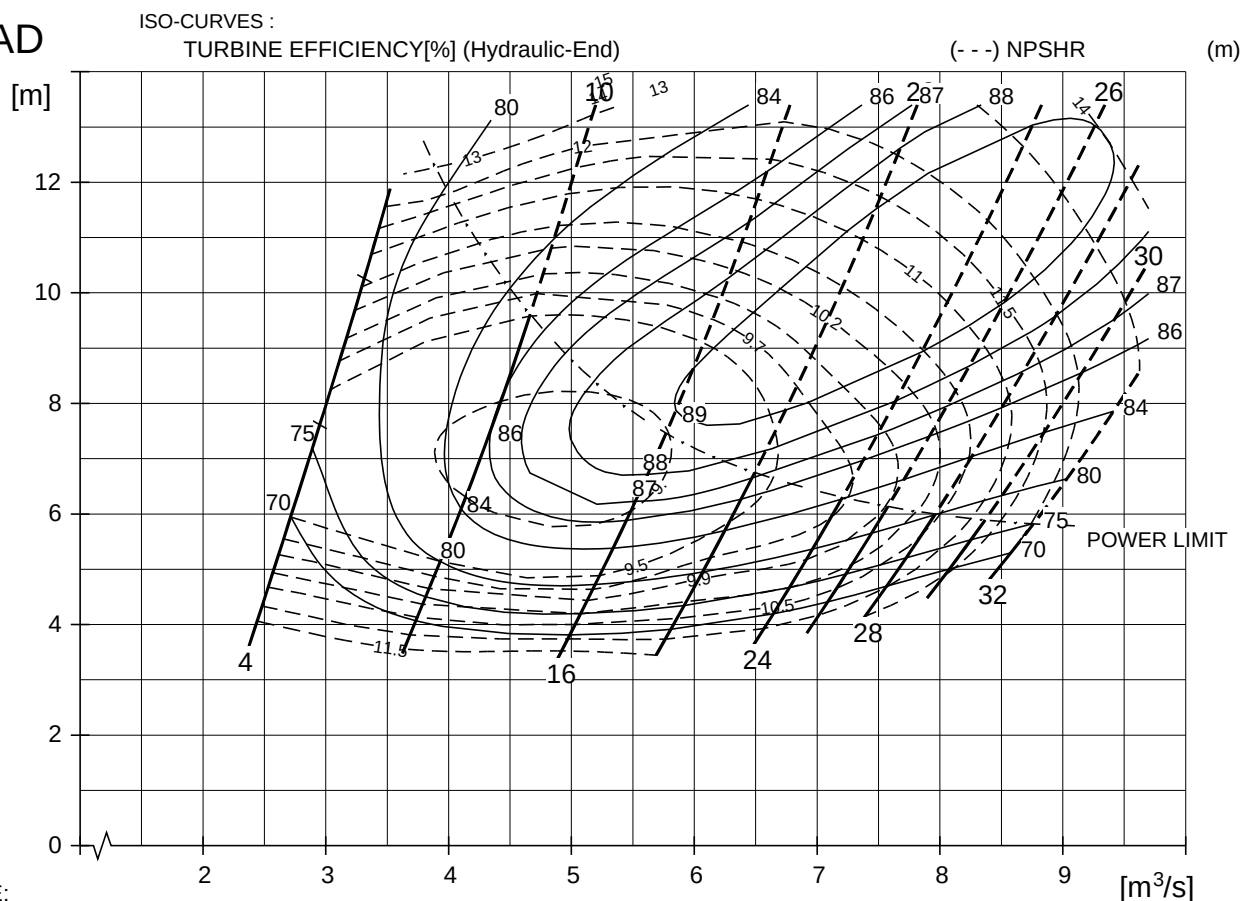
CURVE NO

53- 384 C4EDATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
384 RPMIMPELLER/HUB DIAMETER
1200 / 550 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **32** degDRIVE UNIT
865GENERATOR
54-66-4AAPOLES
4GEN. POWER
375 kWGEAR TYPE
350-13GEAR RATIO
1: 4.034GEAR EFFICIENCY (Load:1/1-3/4)
97.4% - 97.0%

POWER (SHAFT)



HEAD



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

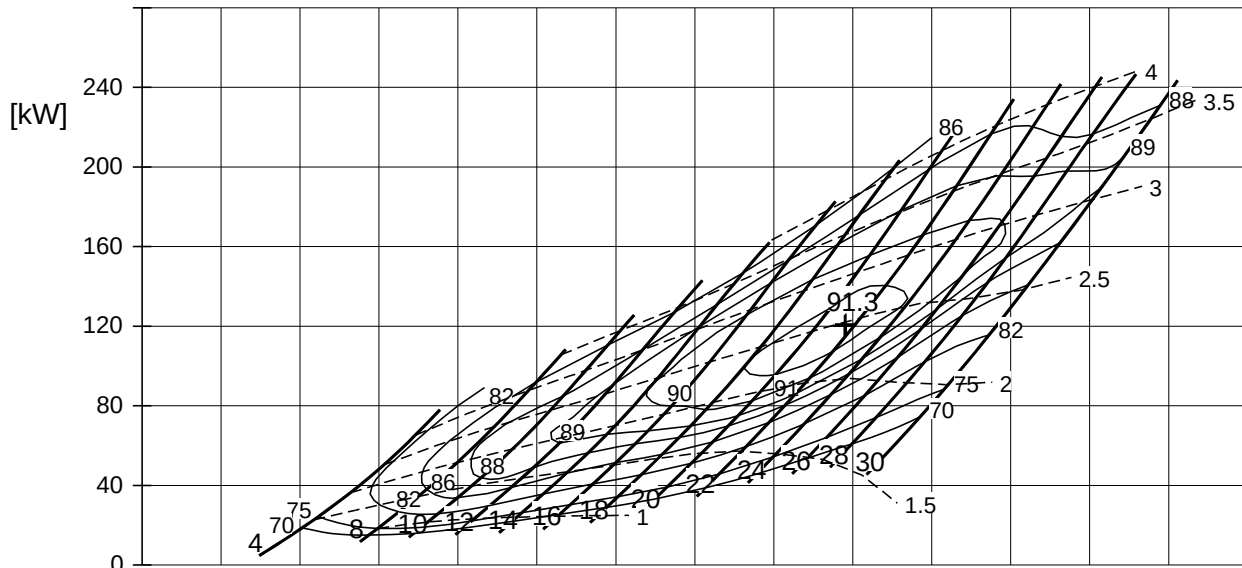
53- 151 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
151 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
805	54-38-8AA	8	170 kW	350-11	1: 5.000	96.2% - 94.9%
835	54-52-8AA	8	230	350-11	1: 5.000	97.1% - 96.2%
865	54-66-8AA	8	300	360-21	1: 5.000	97.6% - 97.0%
905	66-46-8AA	8	300	360-21	1: 5.000	97.6% - 97.0%
905	66-56-8AA	8	390	360-21	1: 5.000	98.0% - 97.6%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)



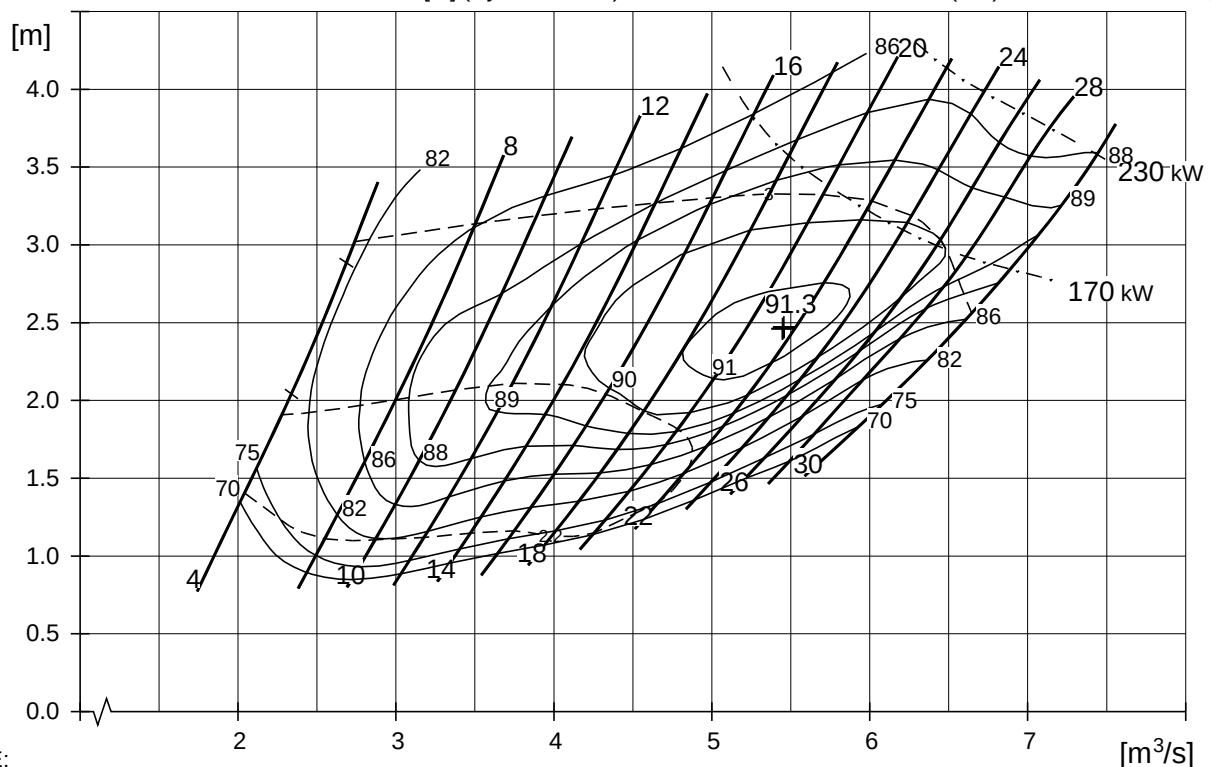
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

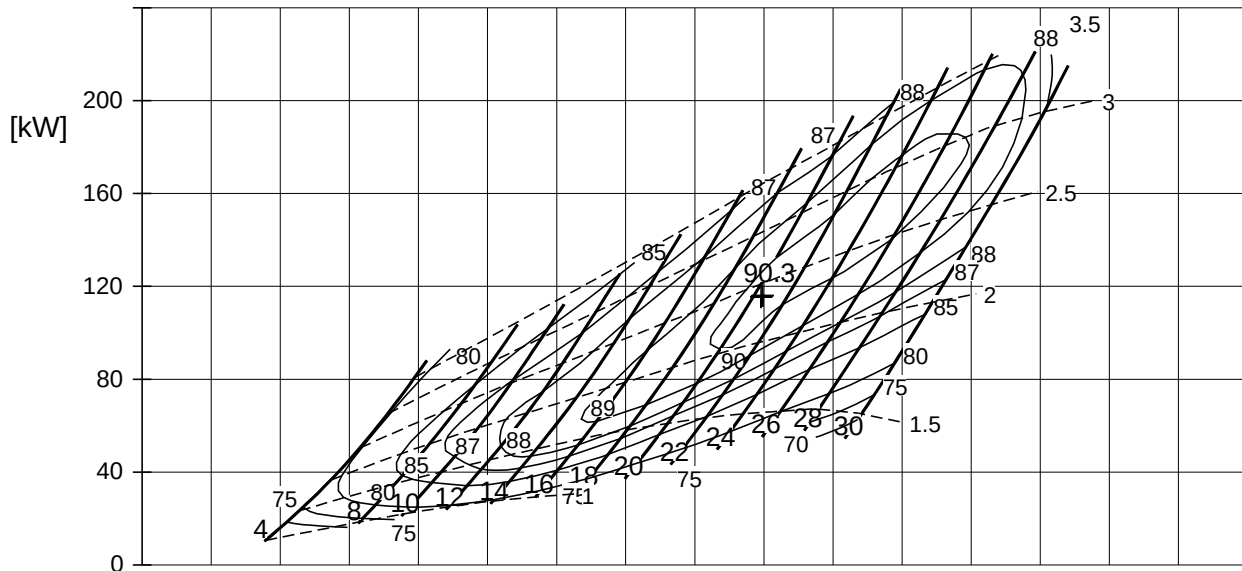
53- 151 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
151 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
805	54-38-8AA	8	170 kW	350-11	1: 5.000	96.2% - 94.9%
835	54-52-8AA	8	230	350-11	1: 5.000	97.1% - 96.2%
865	54-66-8AA	8	300	360-21	1: 5.000	97.6% - 97.0%
905	66-46-8AA	8	300	360-21	1: 5.000	97.6% - 97.0%
905	66-56-8AA	8	390	360-21	1: 5.000	98.0% - 97.6%

POWER (SHAFT)

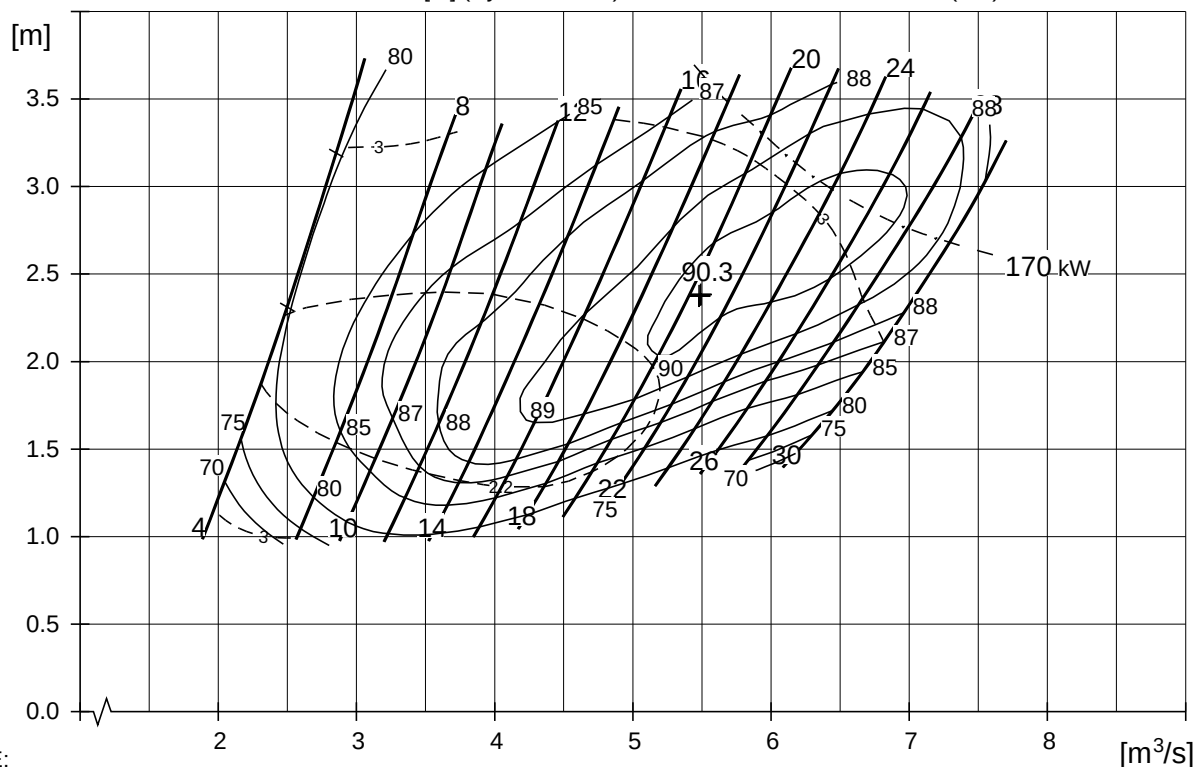
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

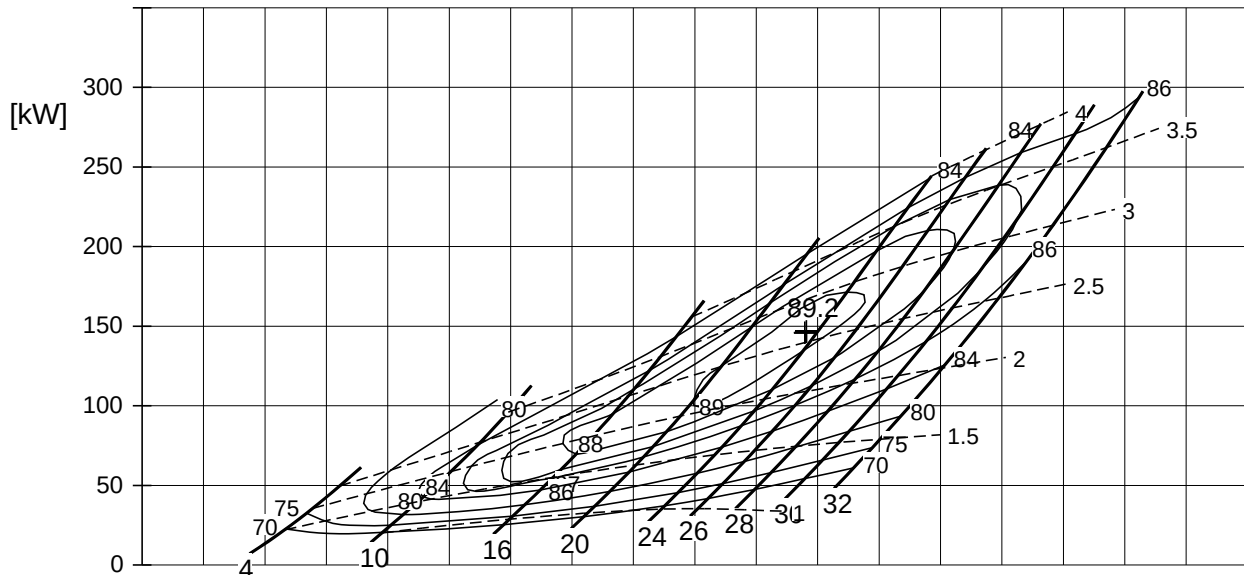
53- 151 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
151 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
805	54-38-8AA	8	170 kW	350-11	1: 5.000	96.2% - 94.9%
835	54-52-8AA	8	230	350-11	1: 5.000	97.1% - 96.2%
865	54-66-8AA	8	300	360-21	1: 5.000	97.6% - 97.0%
905	66-46-8AA	8	300	360-21	1: 5.000	97.6% - 97.0%
905	66-56-8AA	8	390	360-21	1: 5.000	98.0% - 97.6%

POWER (SHAFT)

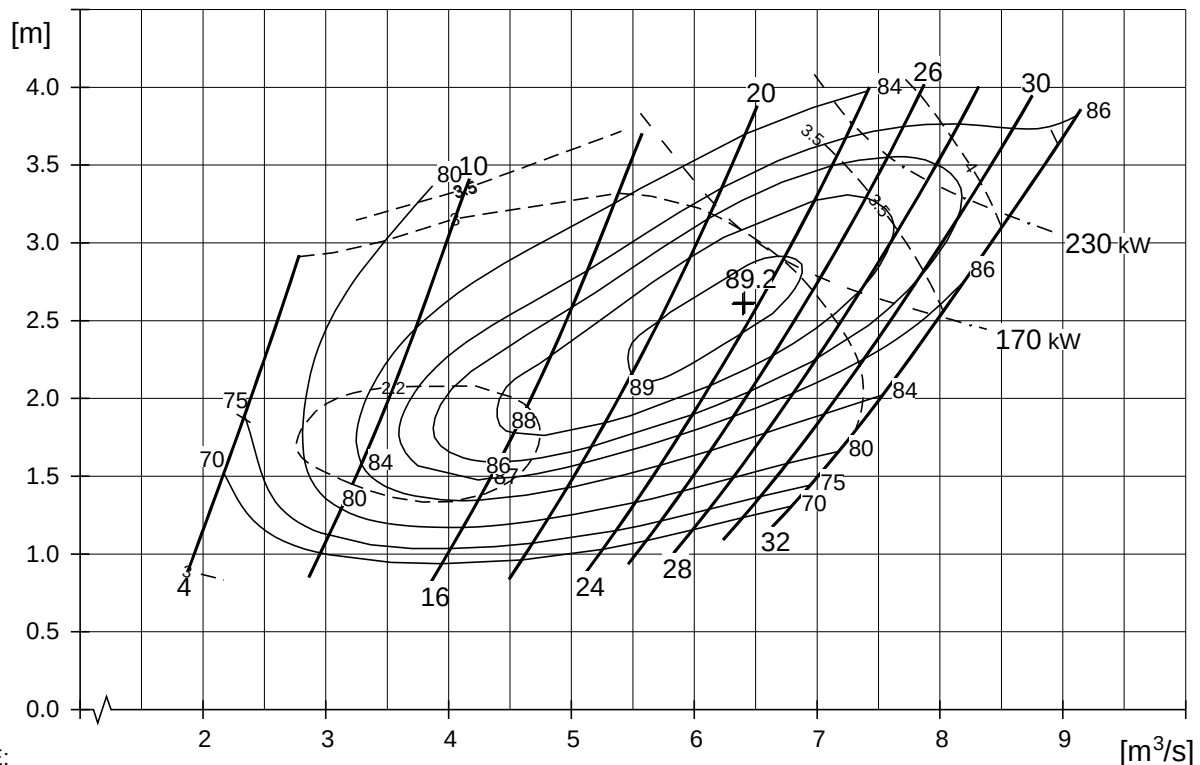
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

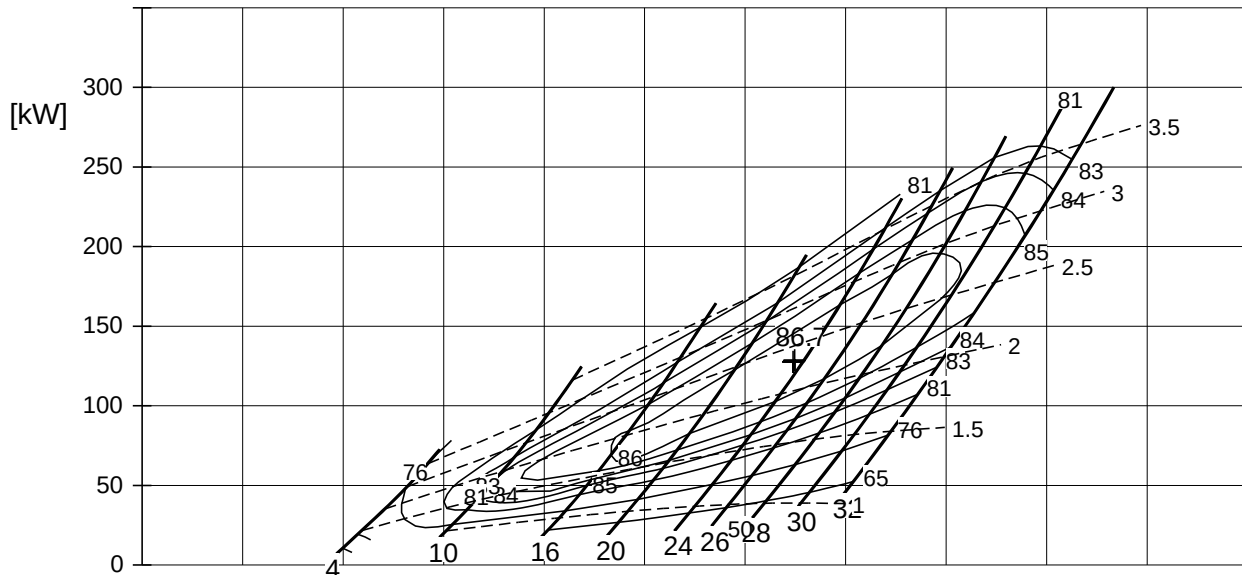
53- 151 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
151 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
77 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
805	54-38-8AA	8	170 kW	350-11	1: 5.000	96.2% - 94.9%
835	54-52-8AA	8	230	350-11	1: 5.000	97.1% - 96.2%
865	54-66-8AA	8	300	360-21	1: 5.000	97.6% - 97.0%
905	66-46-8AA	8	300	360-21	1: 5.000	97.6% - 97.0%
905	66-56-8AA	8	390	360-21	1: 5.000	98.0% - 97.6%

POWER (SHAFT)

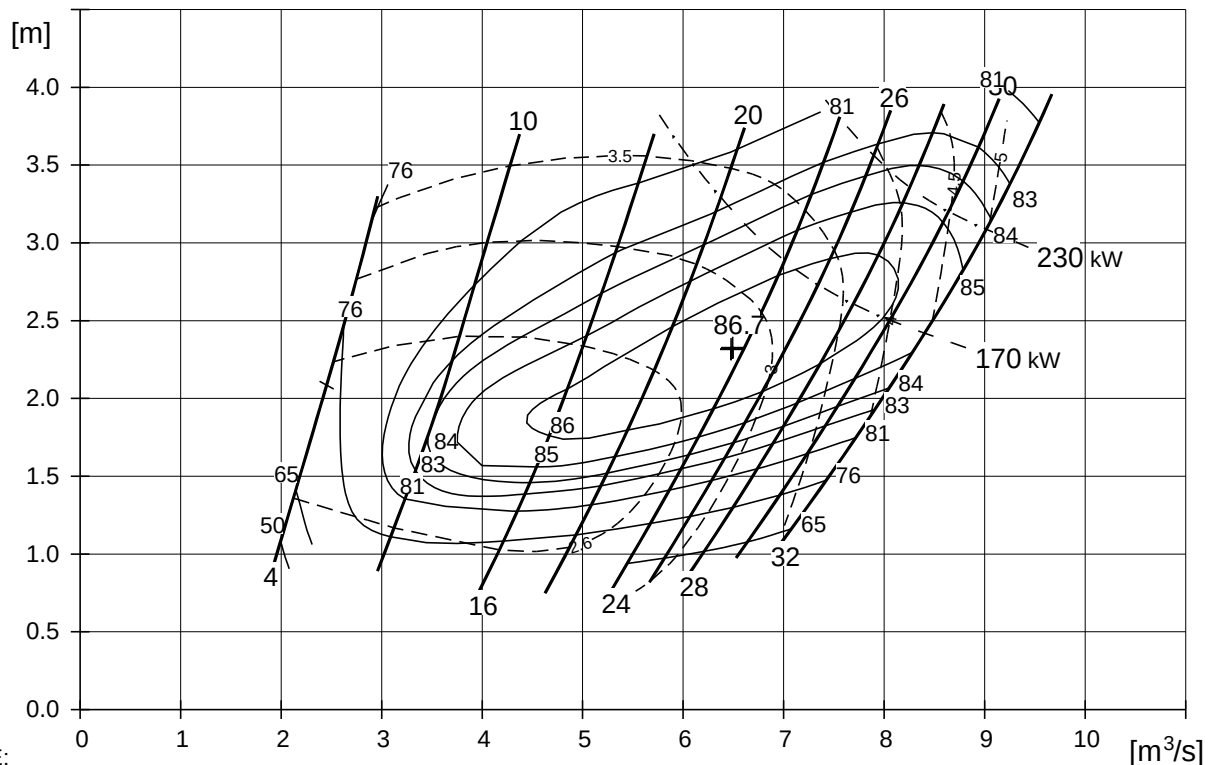
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

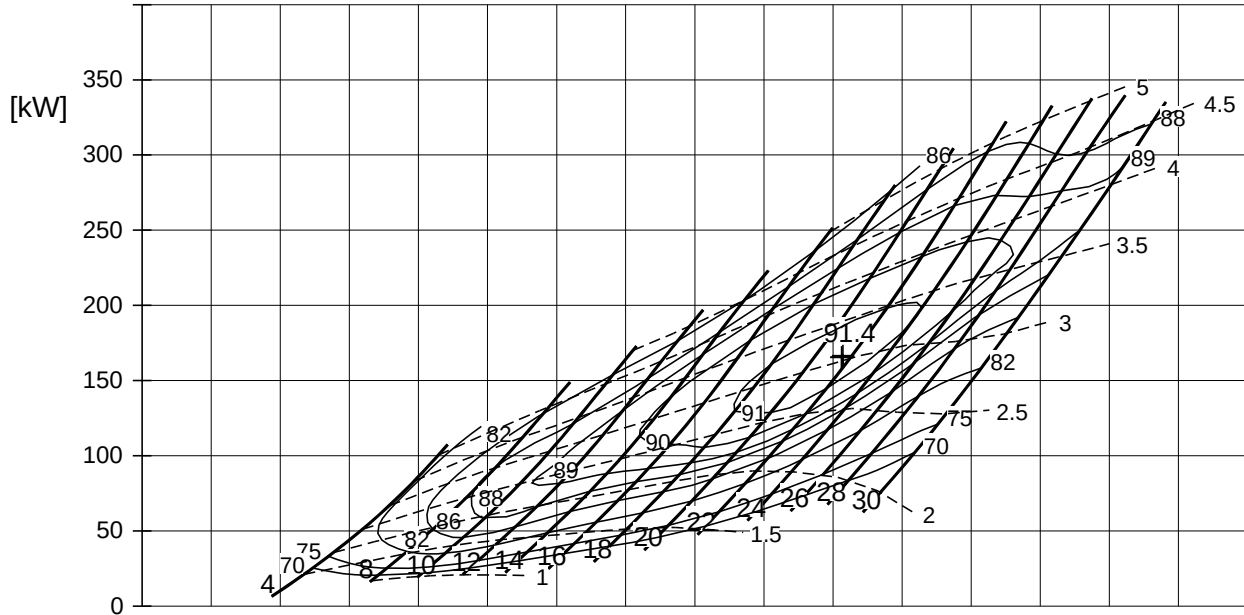
CURVE NO

53- 168C4E

DATE 2016-02-17	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 168 RPM			
IMPELLER/HUB DIAMETER 1500 / 650 mm	GUIDE VANE(S) 57 deg		NO. OF BLADES 4	AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 30 deg		
DRIVE UNIT 905	GENERATOR 66-46-8AA	POLES 8	GEN. POWER 300 kW	GEAR TYPE 350-21	GEAR RATIO 1: 4.500	GEAR EFFICIENCY (Load:1/1-3/4) 97.4% - 96.7%
905	66-56-8AA	8	390	360-21	1: 4.500	97.9% - 97.3%

POWER (SHAFT)

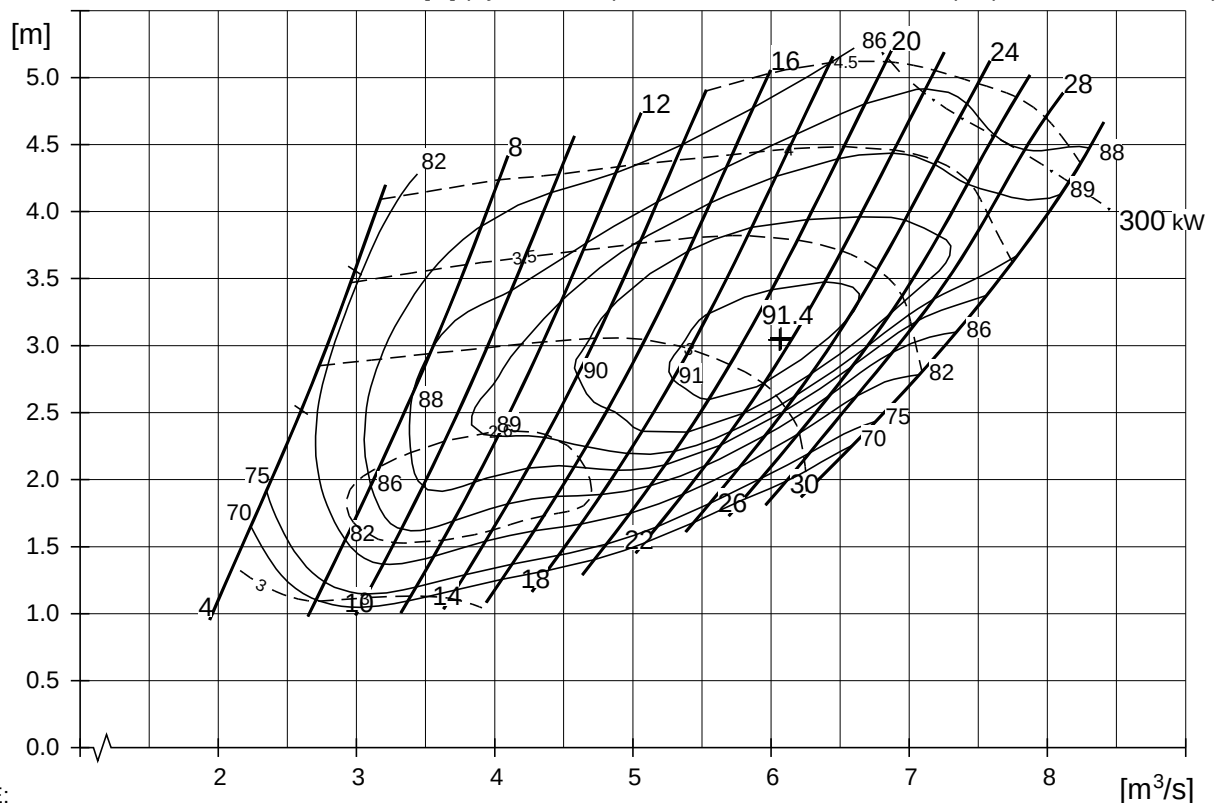
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

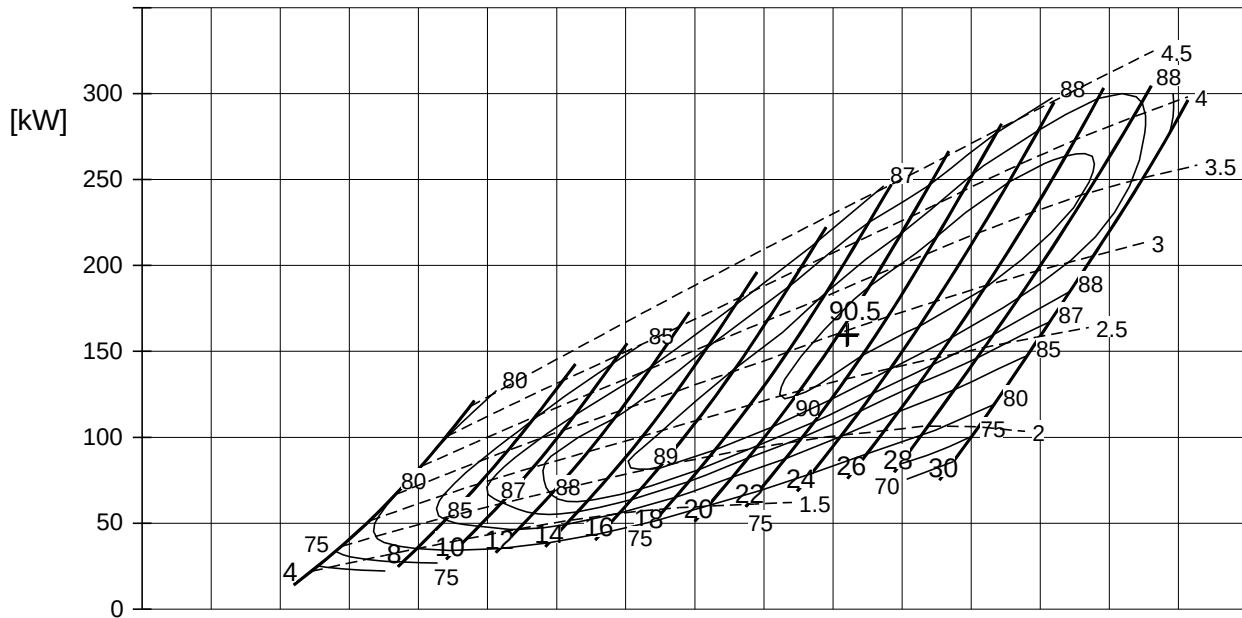
CURVE NO

53- 168C4E

DATE 2016-02-17	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 168 RPM			
IMPELLER/HUB DIAMETER 1500 / 650 mm	GUIDE VANE(S) 63 deg		NO. OF BLADES 4	AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 30 deg		
DRIVE UNIT 905	GENERATOR 66-46-8AA	POLES 8	GEN. POWER 300 kW	GEAR TYPE 350-21	GEAR RATIO 1: 4.500	GEAR EFFICIENCY (Load:1/1-3/4) 97.4% - 96.7%
905	66-56-8AA	8	390	360-21	1: 4.500	97.9% - 97.3%

POWER (SHAFT)

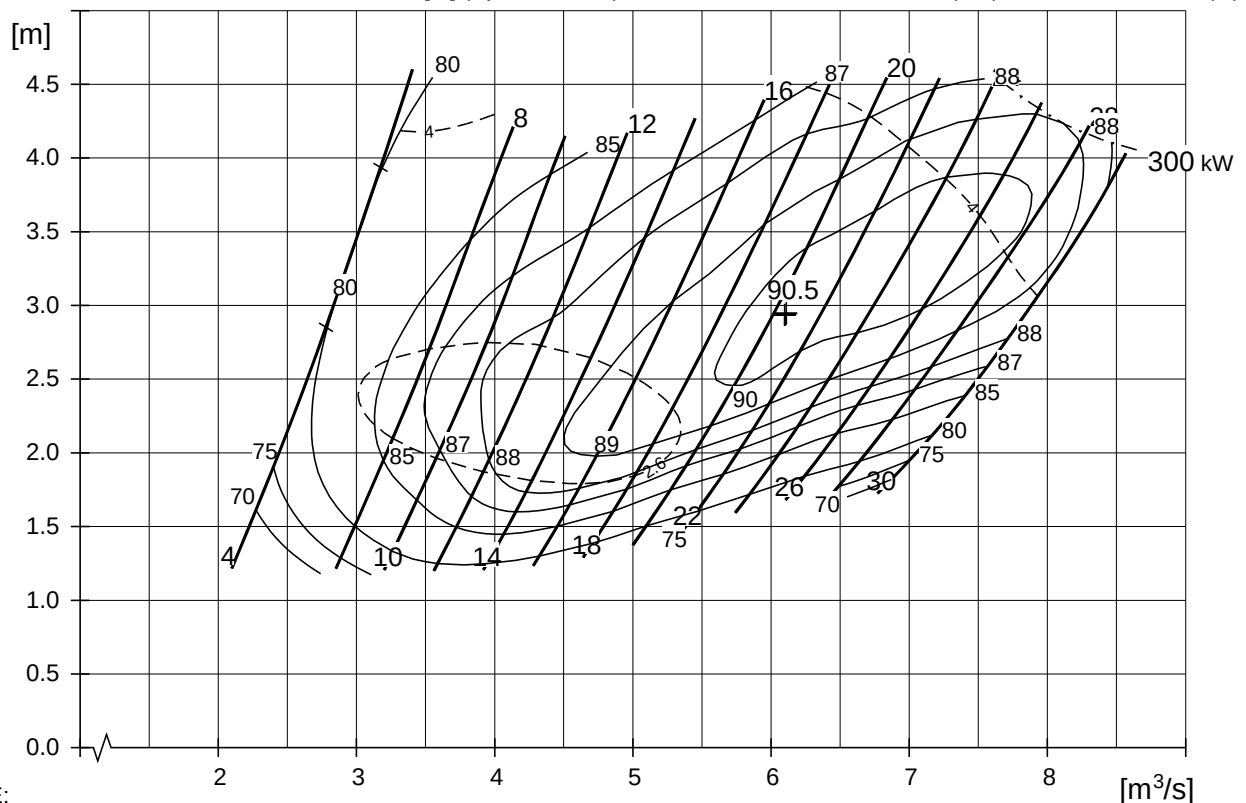
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

53- 168C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
168 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 degDRIVE UNIT
905GENERATOR
66-46-8AAPOLES
8GEN. POWER
300 kWGEAR TYPE
350-21GEAR RATIO
1: 4.500GEAR EFFICIENCY (Load:1/1-3/4)
97.4% - 96.7%

905

66-56-8AA

8

390

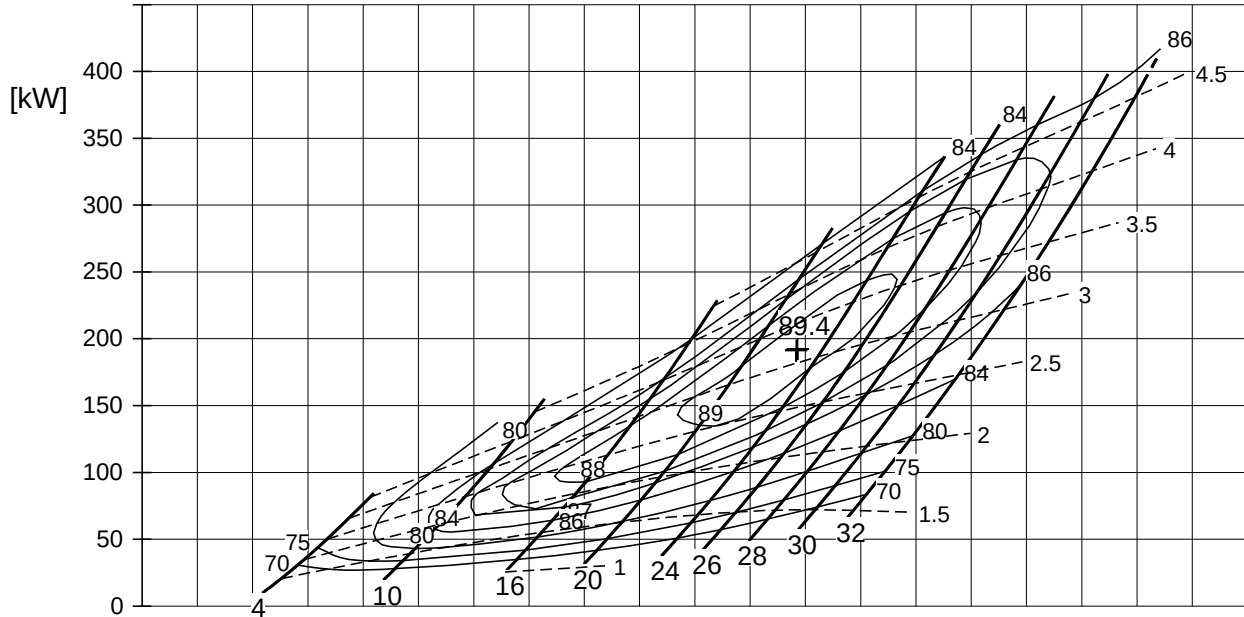
360-21

1: 4.500

97.9% - 97.3%

POWER (SHAFT)

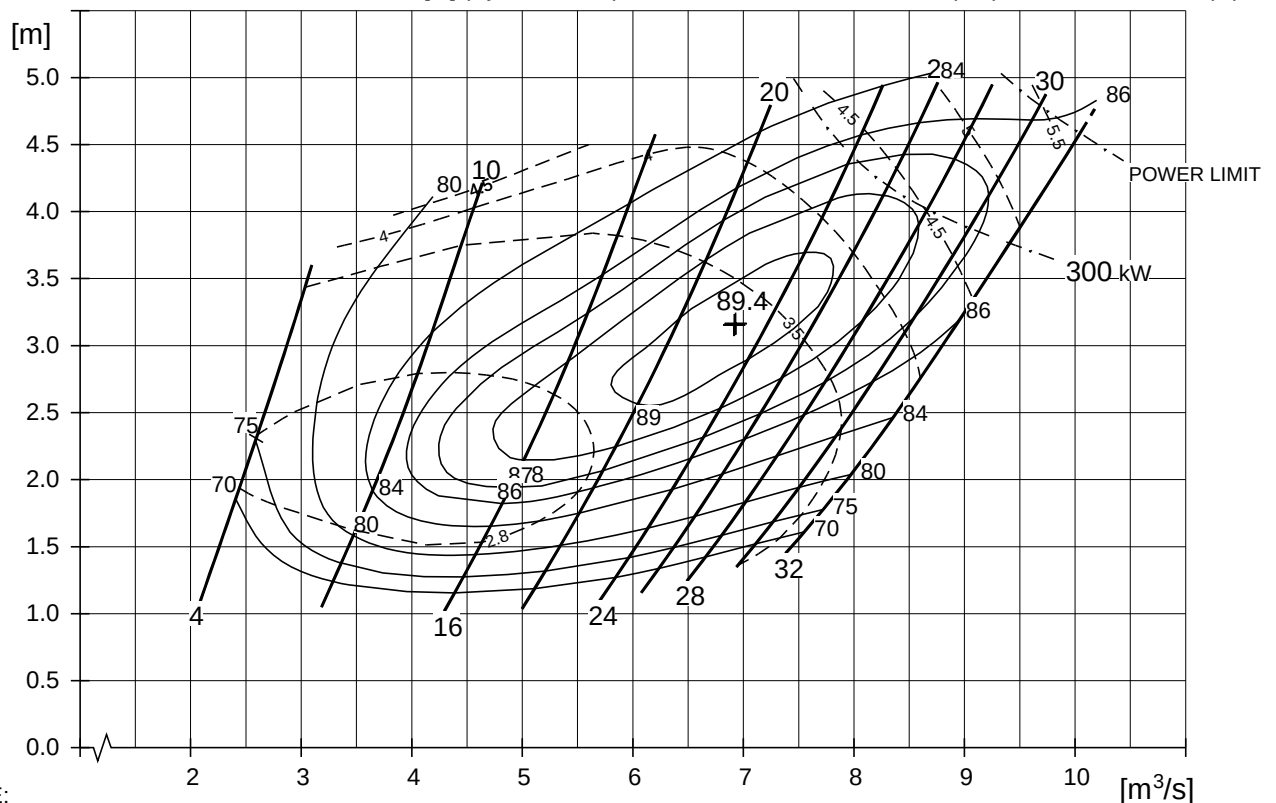
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

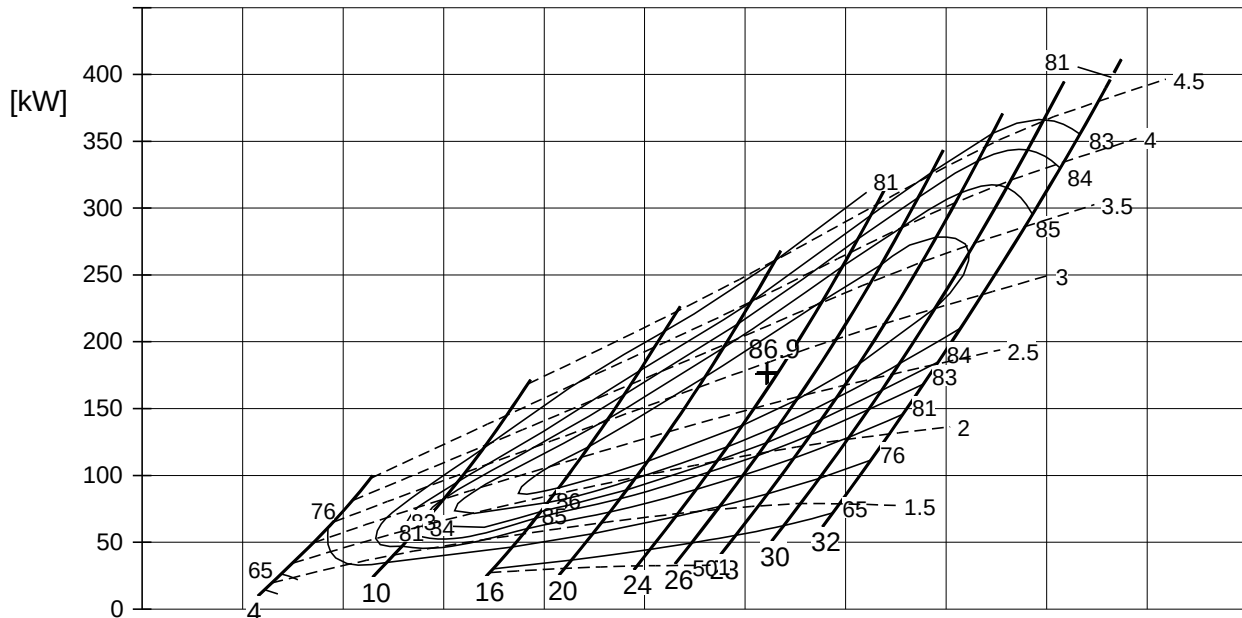
CURVE NO

53- 168C4E

DATE 2016-02-17	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 168 RPM			
IMPELLER/HUB DIAMETER 1500 / 650 mm	GUIDE VANE(S) 77 deg		NO. OF BLADES 4	AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 32 deg		
DRIVE UNIT 905	GENERATOR 66-46-8AA	POLES 8	GEN. POWER 300 kW	GEAR TYPE 350-21	GEAR RATIO 1: 4.500	GEAR EFFICIENCY (Load:1/1-3/4) 97.4% - 96.7%
905	66-56-8AA	8	390	360-21	1: 4.500	97.9% - 97.3%

POWER (SHAFT)

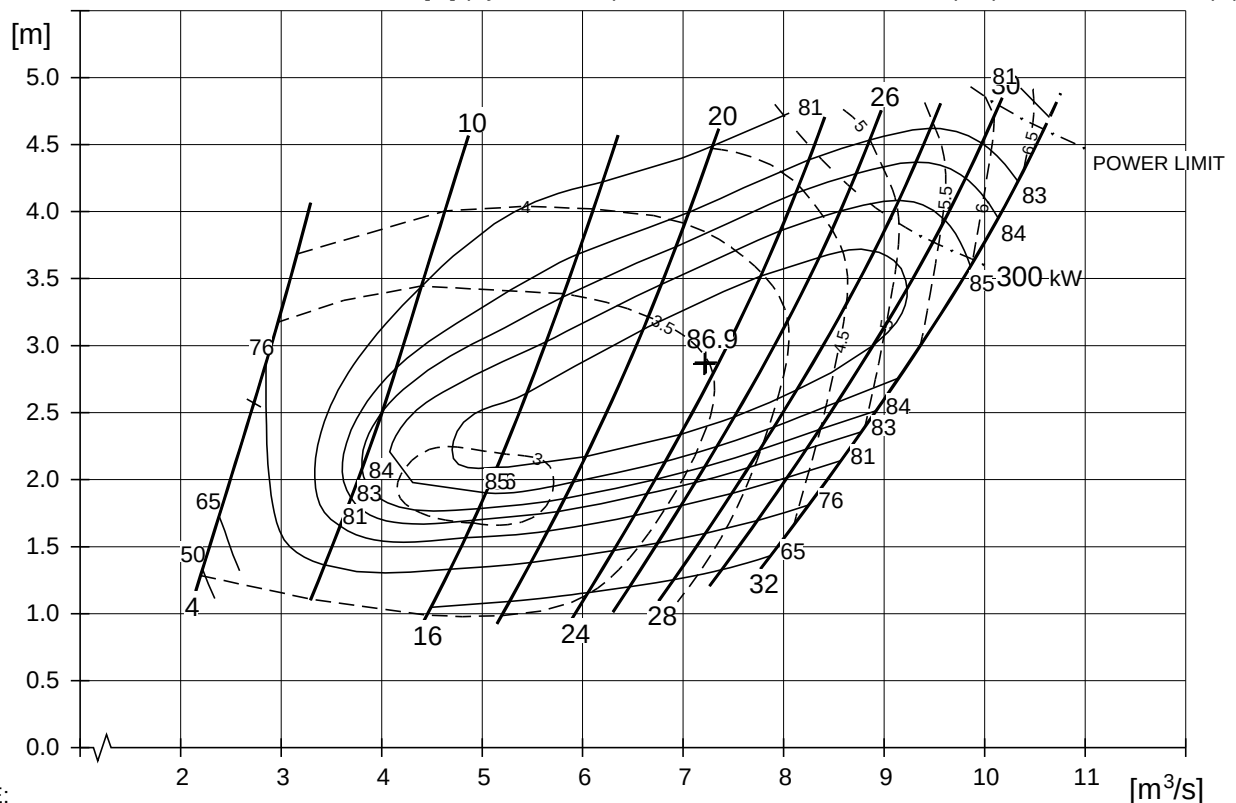
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

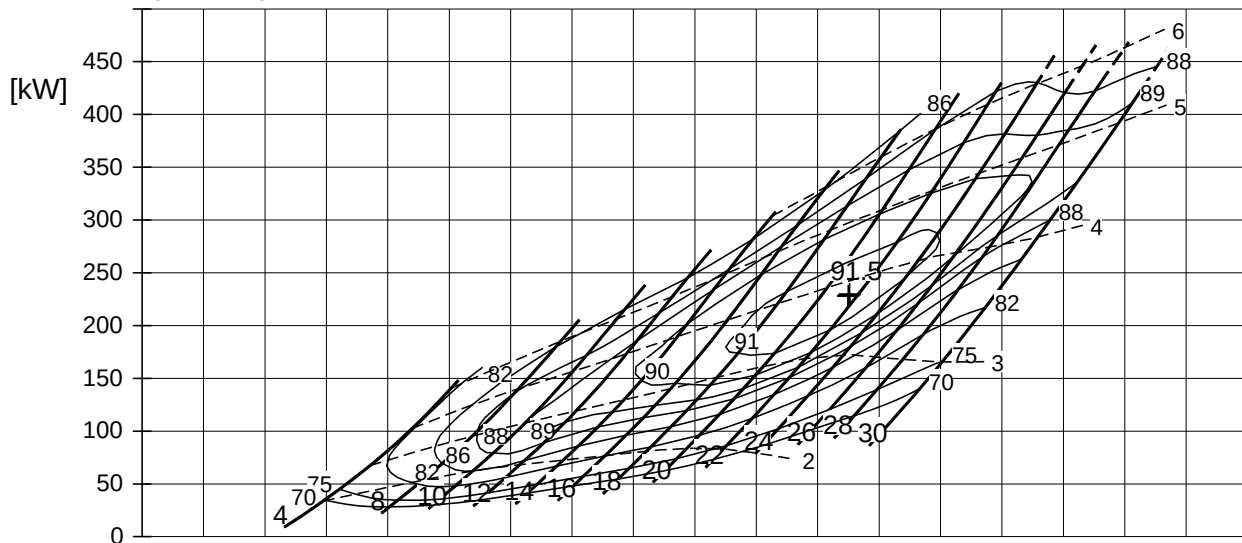
CURVE NO

53- 187C4E

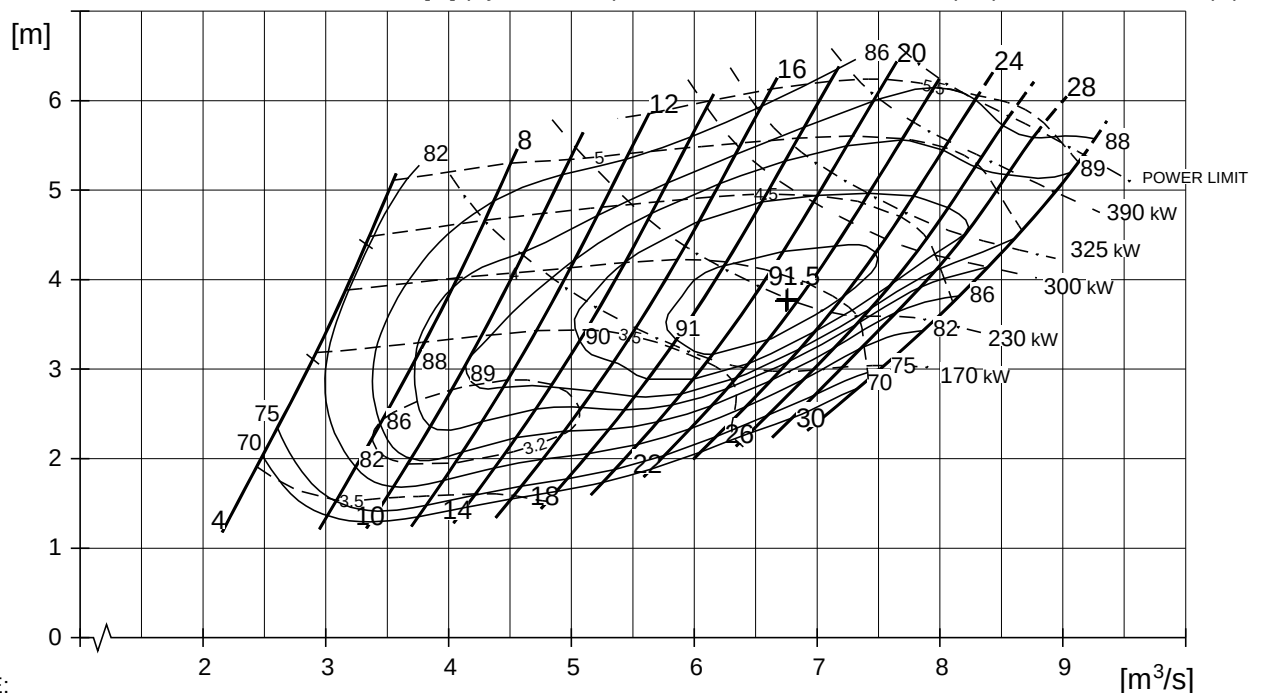
DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
187 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
805	54-38-8AA	8	170 kW	350-11	1: 4.034	95.4% - 93.8%
835	54-52-8AA	8	230	350-11	1: 4.034	96.5% - 95.4%
865	54-66-8AA	8	300	350-21	1: 4.034	97.2% - 96.4%
905	66-46-8AA	8	300	350-21	1: 4.034	97.2% - 96.4%
905	66-56-8AA	8	325	350-21	1: 4.034	97.3% - 96.6%
905	66-56-8AA	8	390	360-21	1: 4.034	97.7% - 97.1%
935	66-66-8AA	8	430	360-21	1: 4.034	97.8% - 97.3%

POWER (SHAFT) ISO-CURVES : (---) HEAD(m)



HEAD ISO-CURVES : TURBINE EFFICIENCY[%] (Hydraulic-End) (---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

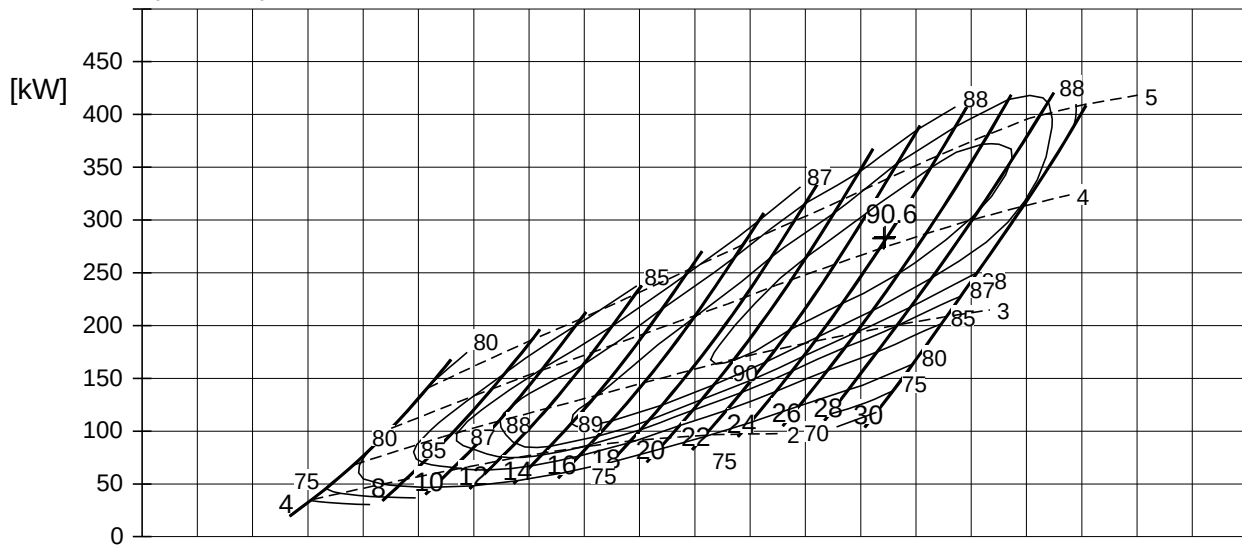
CURVE NO

53- 187C4EDATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
187 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
805	54-38-8AA	8	170 kW	350-11	1: 4.034	95.4% - 93.8%
835	54-52-8AA	8	230	350-11	1: 4.034	96.5% - 95.4%
865	54-66-8AA	8	300	350-21	1: 4.034	97.2% - 96.4%
905	66-46-8AA	8	300	350-21	1: 4.034	97.2% - 96.4%
905	66-56-8AA	8	325	350-21	1: 4.034	97.3% - 96.6%
905	66-56-8AA	8	390	360-21	1: 4.034	97.7% - 97.1%
935	66-66-8AA	8	430	360-21	1: 4.034	97.8% - 97.3%

POWER (SHAFT)

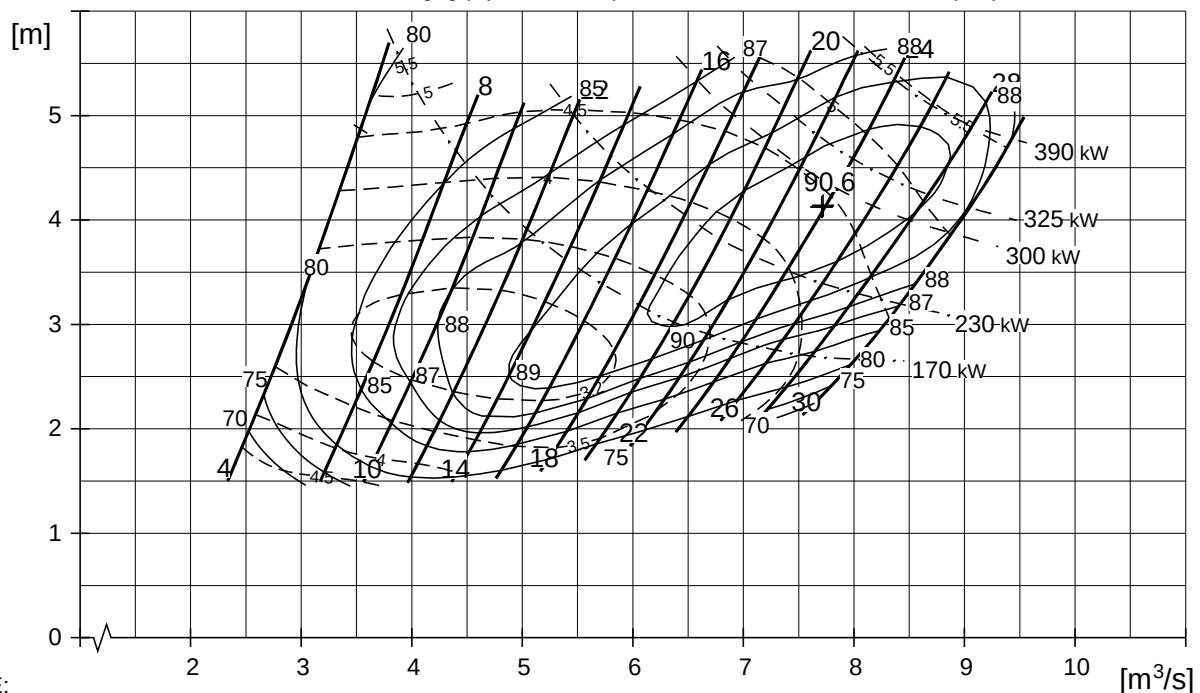
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE**FLOW**



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

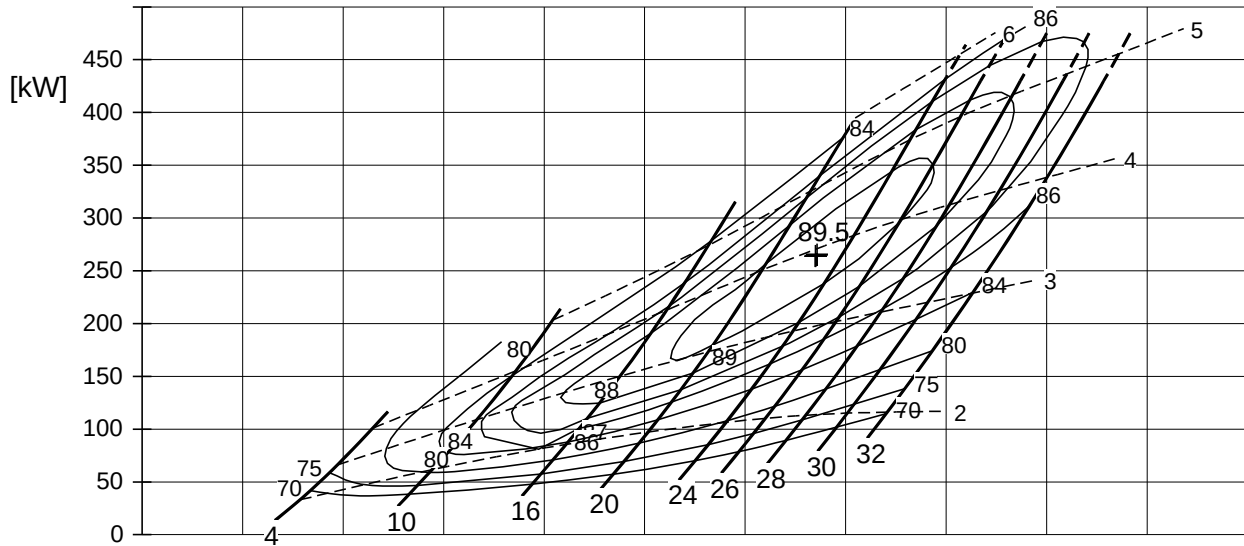
CURVE NO

53- 187 C4EDATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
187 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **32** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
805	54-38-8AA	8	170 kW	350-11	1: 4.034	95.4% - 93.8%
835	54-52-8AA	8	230	350-11	1: 4.034	96.5% - 95.4%
865	54-66-8AA	8	300	350-21	1: 4.034	97.2% - 96.4%
905	66-46-8AA	8	300	350-21	1: 4.034	97.2% - 96.4%
905	66-56-8AA	8	325	350-21	1: 4.034	97.3% - 96.6%
905	66-56-8AA	8	390	360-21	1: 4.034	97.7% - 97.1%
935	66-66-8AA	8	430	360-21	1: 4.034	97.8% - 97.3%

POWER (SHAFT)

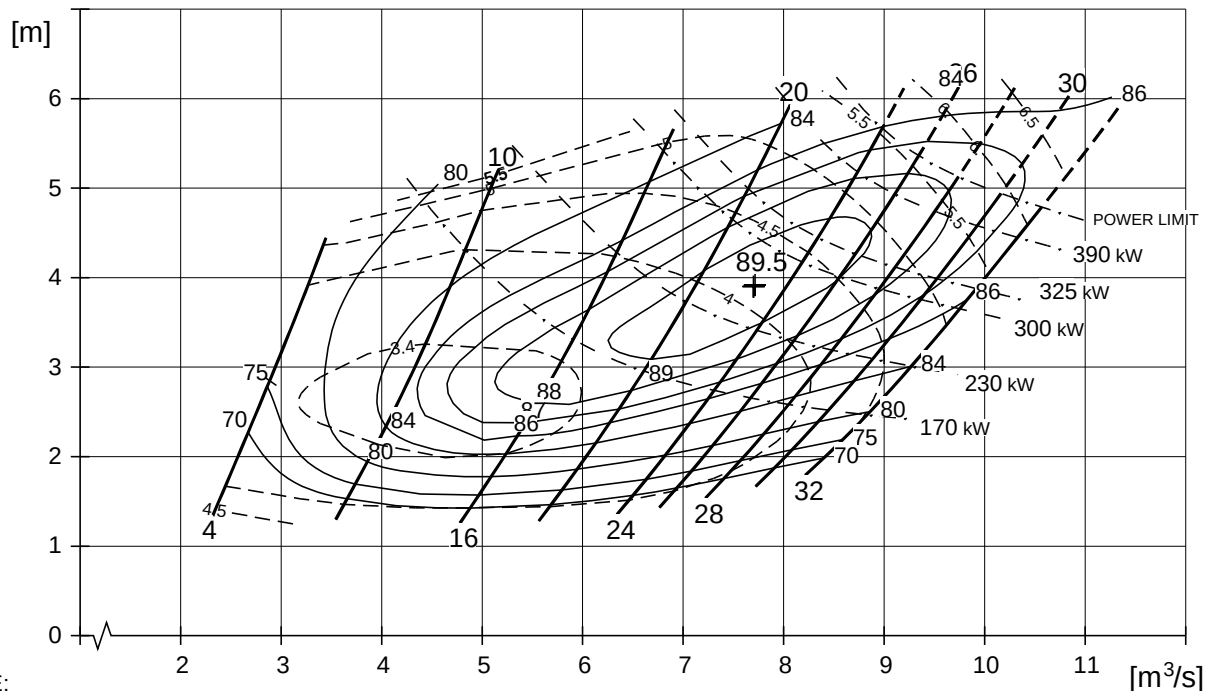
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

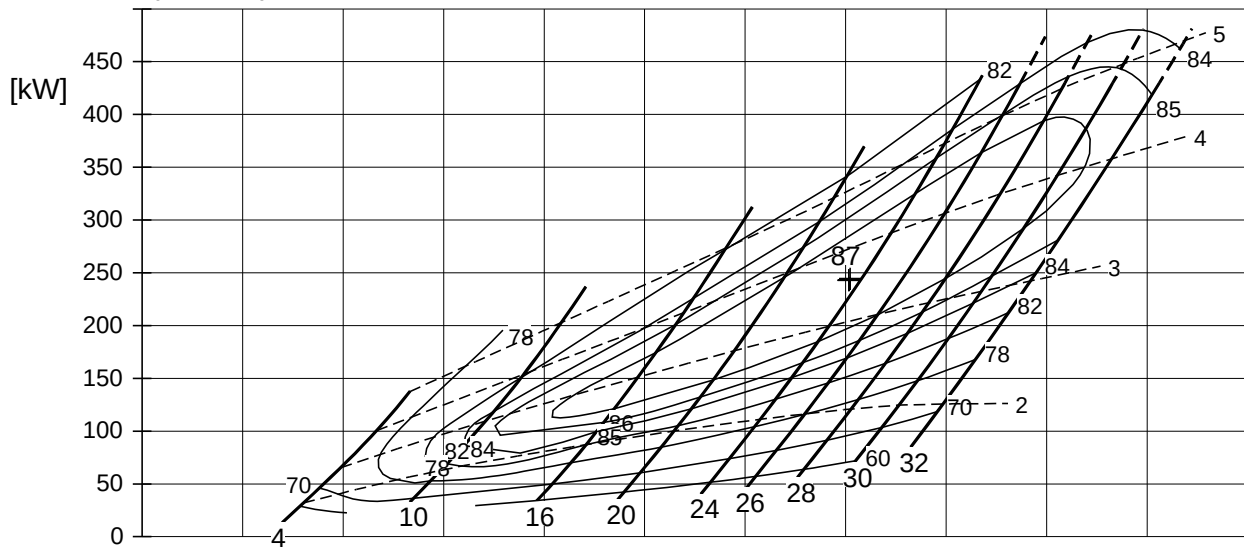
53- 187 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
187 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
77 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
805	54-38-8AA	8	170 kW	350-11	1: 4.034	95.4% - 93.8%
835	54-52-8AA	8	230	350-11	1: 4.034	96.5% - 95.4%
865	54-66-8AA	8	300	350-21	1: 4.034	97.2% - 96.4%
905	66-46-8AA	8	300	350-21	1: 4.034	97.2% - 96.4%
905	66-56-8AA	8	325	350-21	1: 4.034	97.3% - 96.6%
905	66-56-8AA	8	390	360-21	1: 4.034	97.7% - 97.1%
935	66-66-8AA	8	430	360-21	1: 4.034	97.8% - 97.3%

POWER (SHAFT)

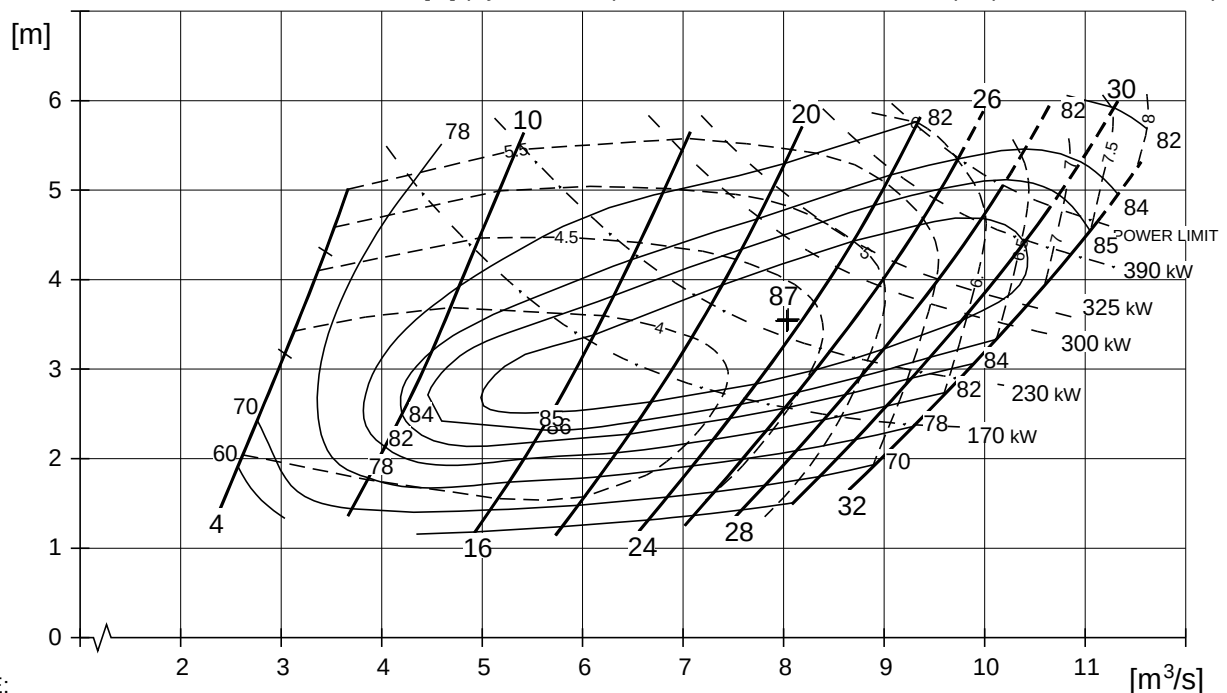
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

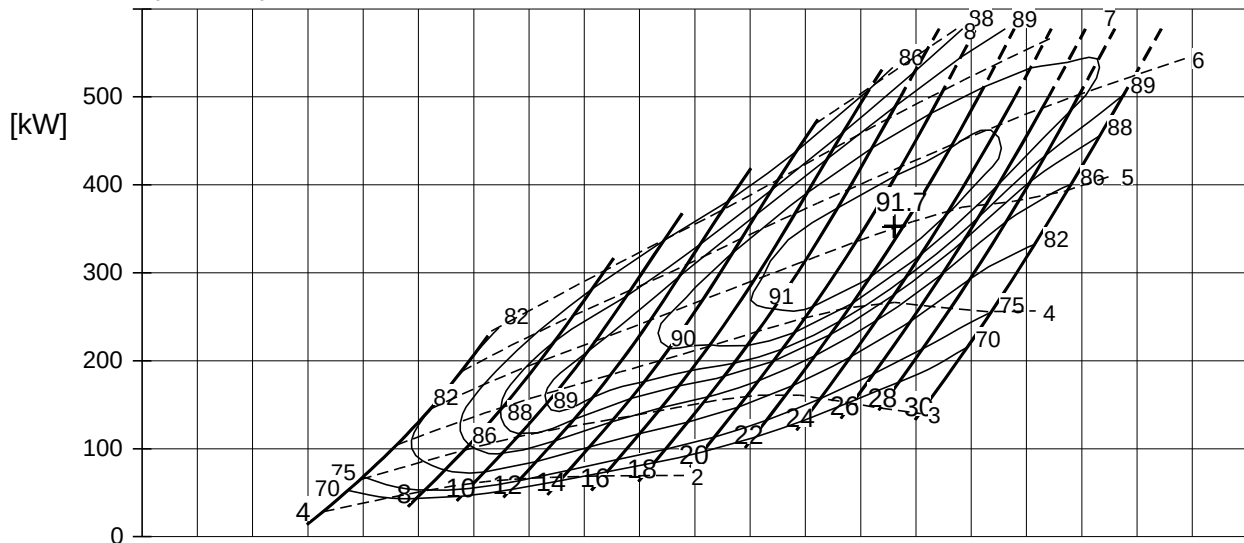
53- 216C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
216 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
805	54-38-8AA	8	170 kW	350-12	1: 3.500	95.8% - 94.8%
835	54-52-8AA	8	230	350-12	1: 3.500	96.5% - 95.8%
865	54-66-8AA	8	290	350-12	1: 3.500	96.9% - 96.4%
905	66-46-8AA	8	290	350-12	1: 3.500	96.9% - 96.4%
905	66-56-8AA	8	390	360-22	1: 3.500	97.4% - 96.9%
935	66-66-8AA	8	430	360-22	1: 3.500	97.5% - 97.1%
935	66-76-8AA	8	500	360-22	1: 3.500	97.6% - 97.3%

POWER (SHAFT)

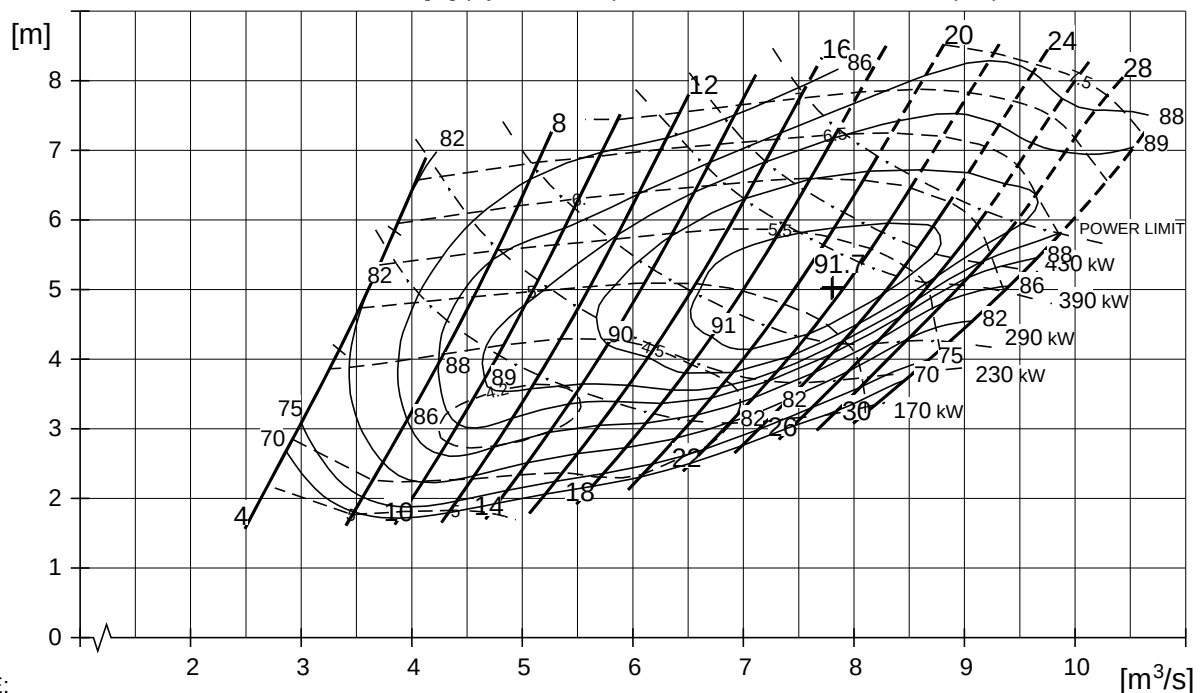
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

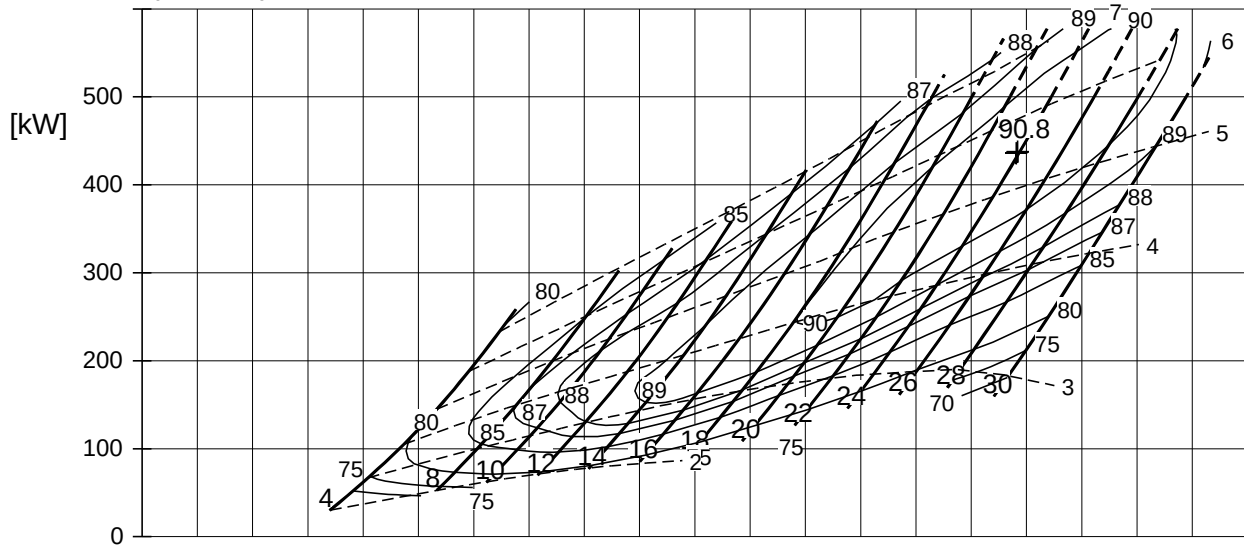
CURVE NO

53- 216C4EDATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
216 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **30** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
805	54-38-8AA	8	170 kW	350-12	1: 3.500	95.8% - 94.8%
835	54-52-8AA	8	230	350-12	1: 3.500	96.5% - 95.8%
865	54-66-8AA	8	290	350-12	1: 3.500	96.9% - 96.4%
905	66-46-8AA	8	290	350-12	1: 3.500	96.9% - 96.4%
905	66-56-8AA	8	390	360-22	1: 3.500	97.4% - 96.9%
935	66-66-8AA	8	430	360-22	1: 3.500	97.5% - 97.1%
935	66-76-8AA	8	500	360-22	1: 3.500	97.6% - 97.3%

POWER (SHAFT)

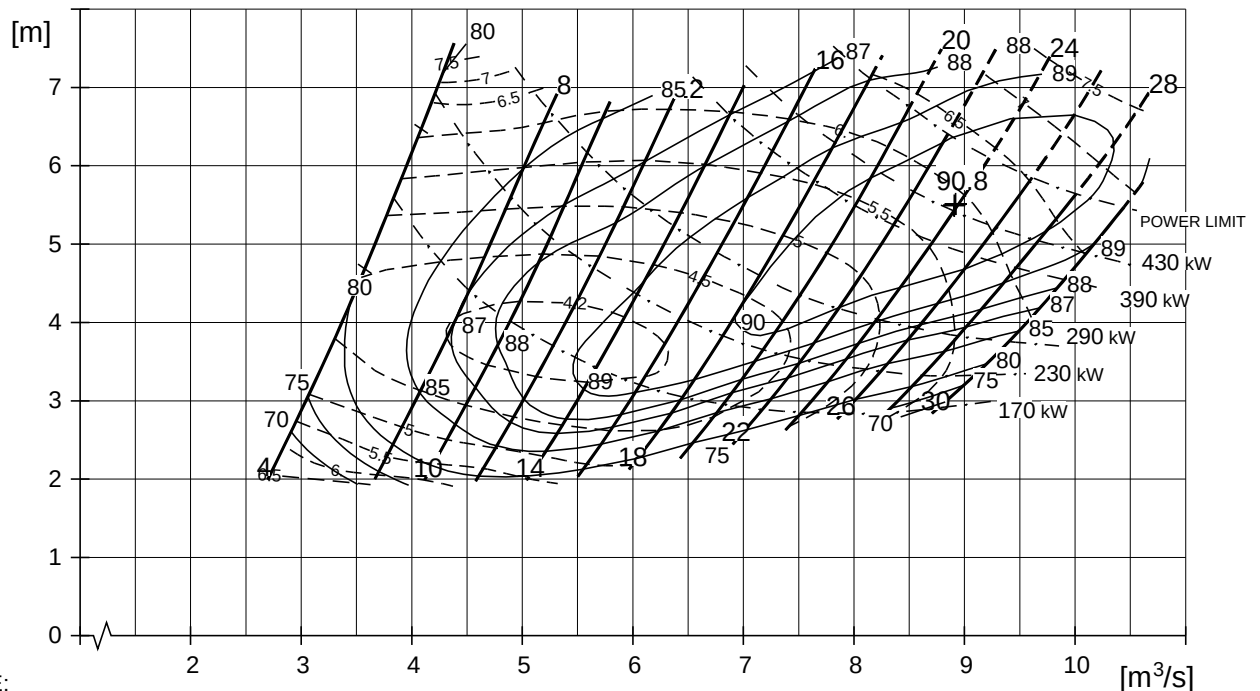
ISO-CURVES : (- - -) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

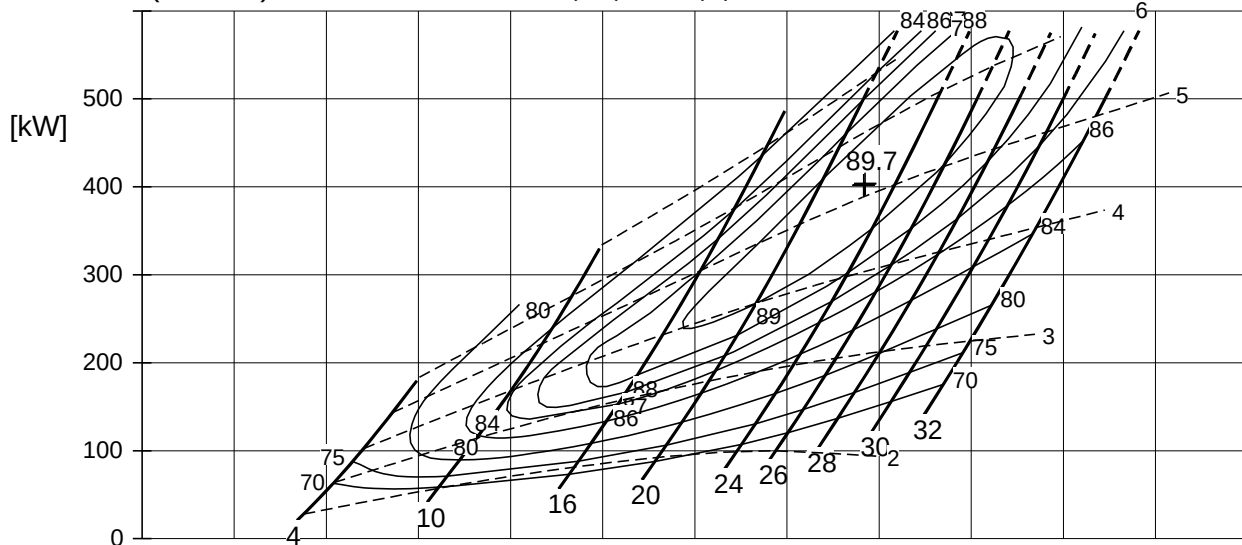
53- 216C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
216 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
805	54-38-8AA	8	170 kW	350-12	1: 3.500	95.8% - 94.8%
835	54-52-8AA	8	230	350-12	1: 3.500	96.5% - 95.8%
865	54-66-8AA	8	290	350-12	1: 3.500	96.9% - 96.4%
905	66-46-8AA	8	290	350-12	1: 3.500	96.9% - 96.4%
905	66-56-8AA	8	390	360-22	1: 3.500	97.4% - 96.9%
935	66-66-8AA	8	430	360-22	1: 3.500	97.5% - 97.1%
935	66-76-8AA	8	500	360-22	1: 3.500	97.6% - 97.3%

POWER (SHAFT)

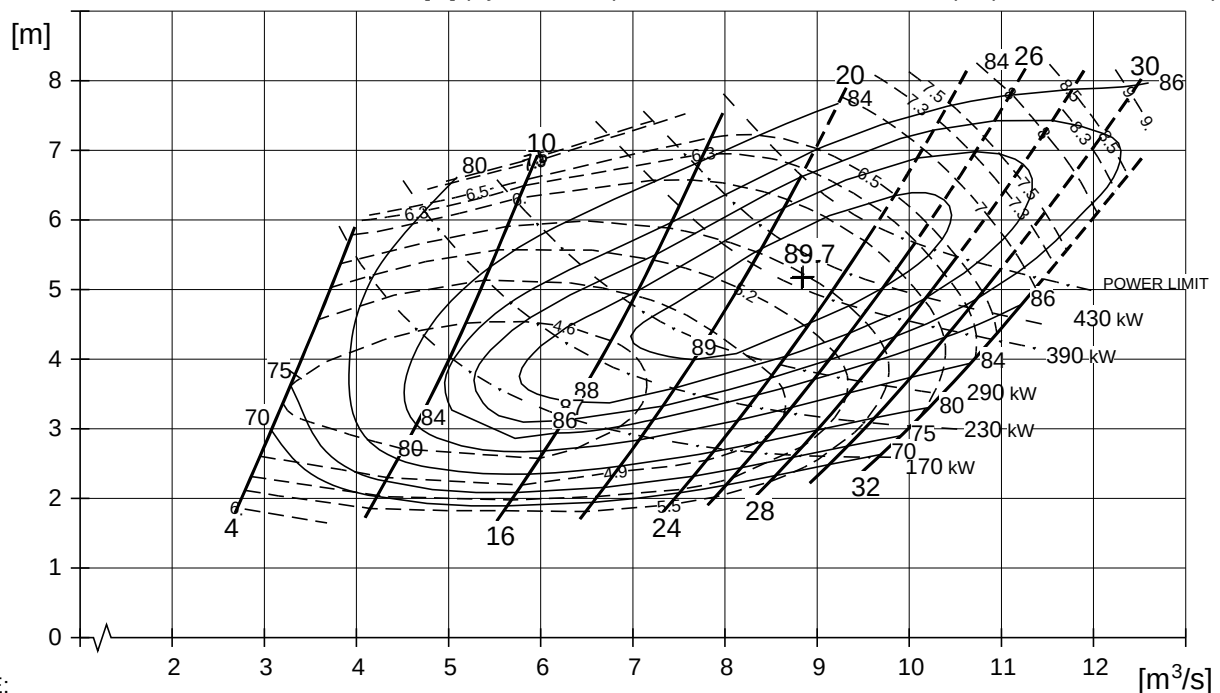
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

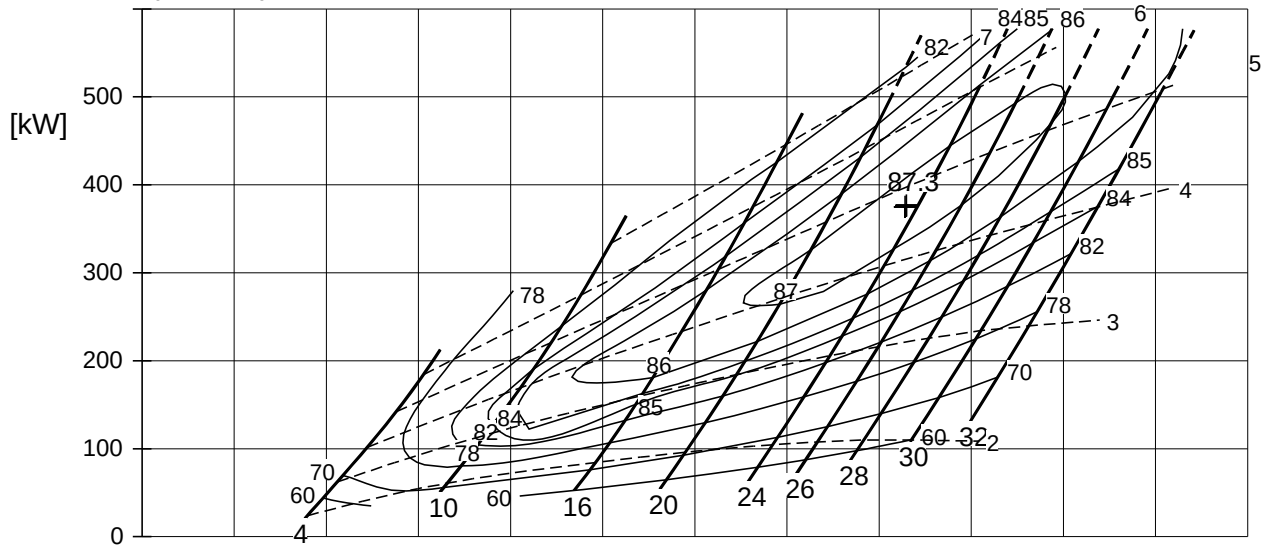
53- 216C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
216 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
77 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
805	54-38-8AA	8	170 kW	350-12	1: 3.500	95.8% - 94.8%
835	54-52-8AA	8	230	350-12	1: 3.500	96.5% - 95.8%
865	54-66-8AA	8	290	350-12	1: 3.500	96.9% - 96.4%
905	66-46-8AA	8	290	350-12	1: 3.500	96.9% - 96.4%
905	66-56-8AA	8	390	360-22	1: 3.500	97.4% - 96.9%
935	66-66-8AA	8	430	360-22	1: 3.500	97.5% - 97.1%
935	66-76-8AA	8	500	360-22	1: 3.500	97.6% - 97.3%

POWER (SHAFT)

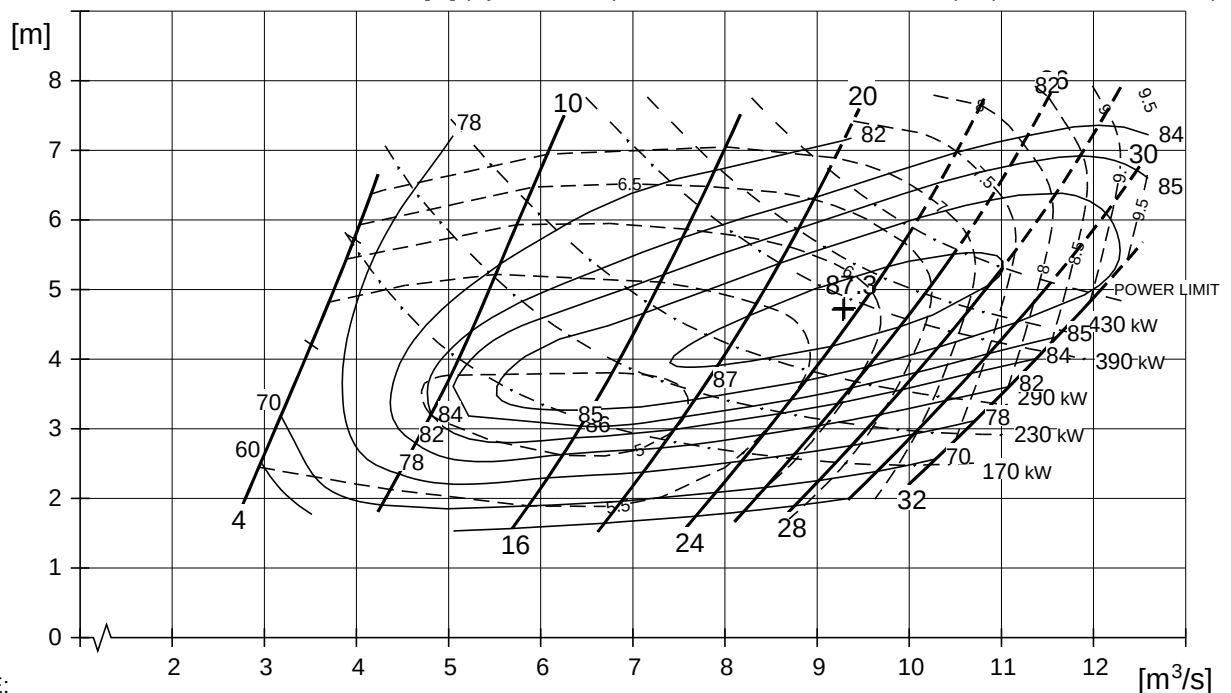
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

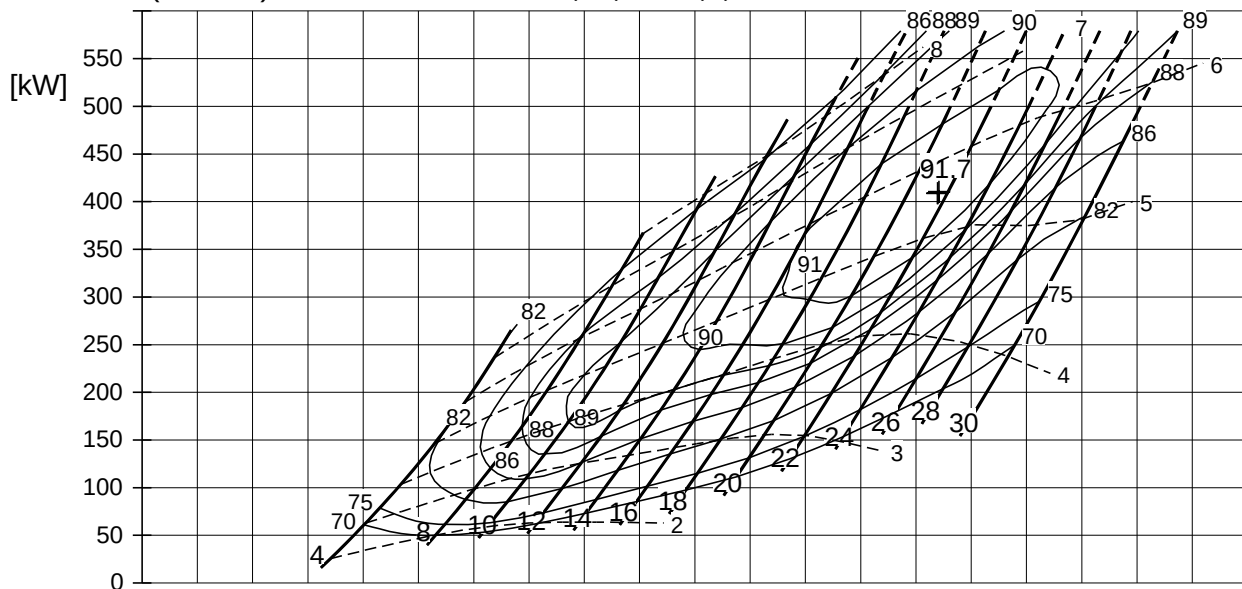
53- 227 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
227 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-12	1: 3.333	96.9% - 96.3%
905	66-56-8AA	8	390	350-12	1: 3.333	97.3% - 96.9%
935	66-66-8AA	8	430	360-22	1: 3.321	98.2% - 98.0%
935	66-76-8AA	8	500	360-22	1: 3.321	98.3% - 98.1%

POWER (SHAFT)

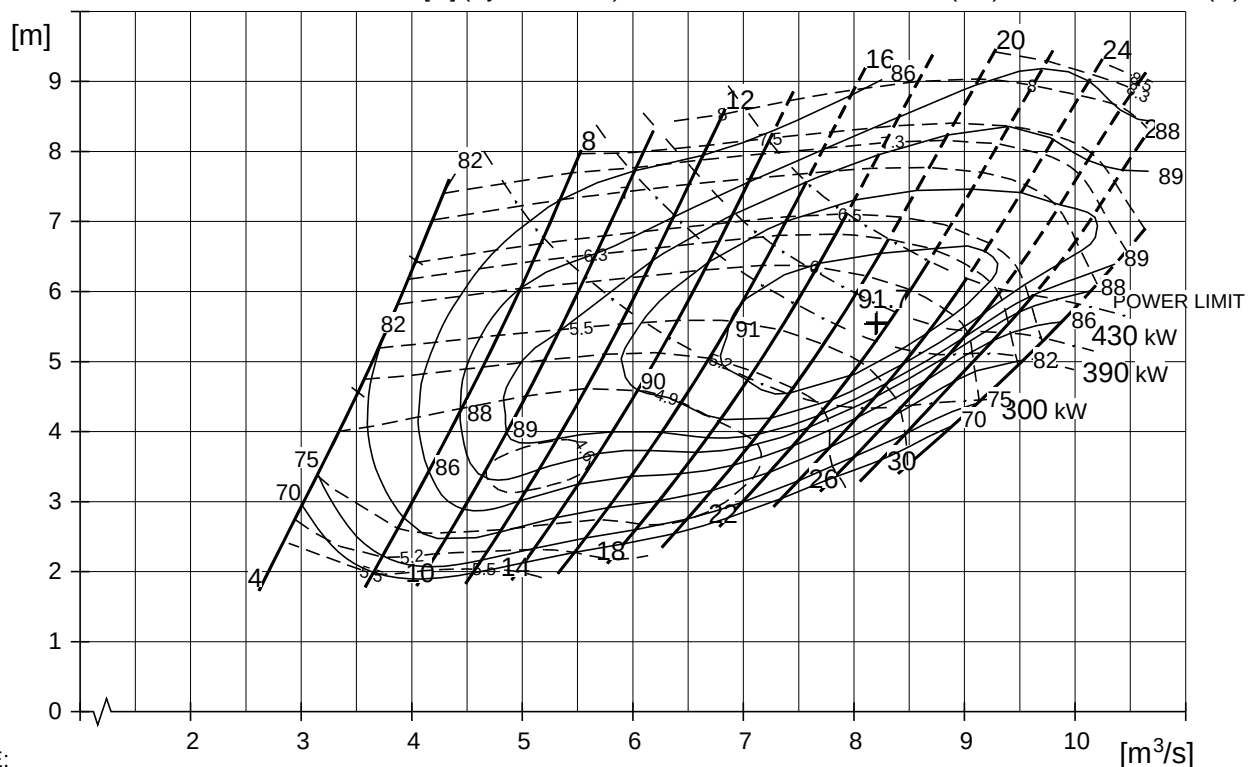
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

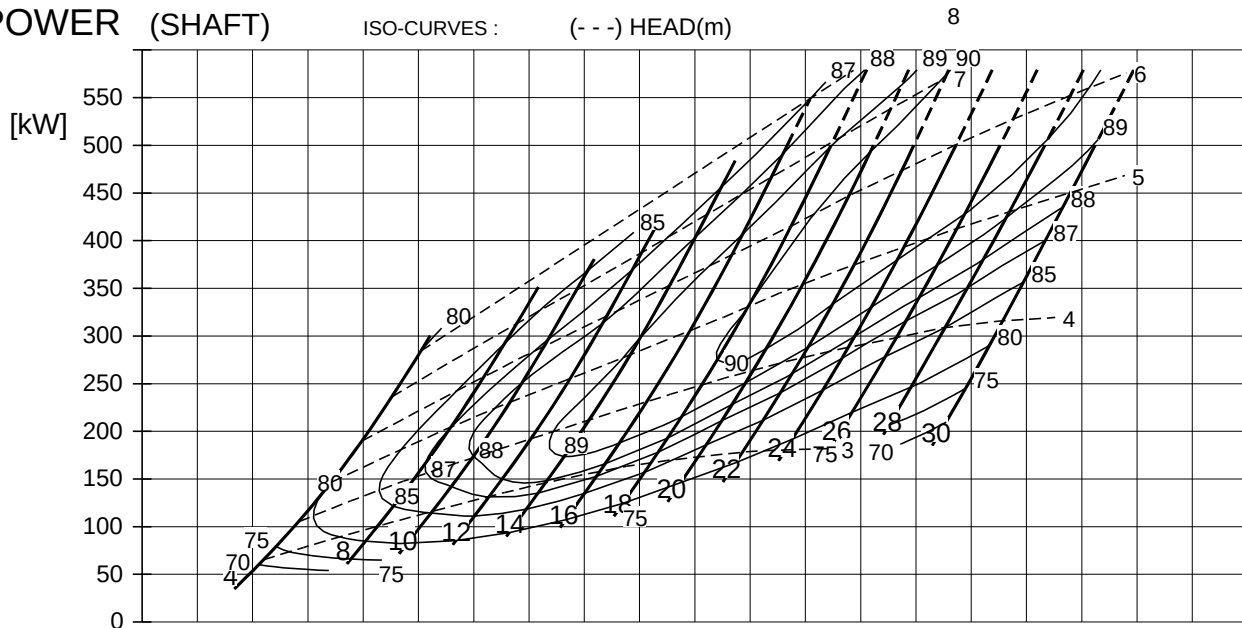
53- 227 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
227 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-12	1: 3.333	96.9% - 96.3%
905	66-56-8AA	8	390	350-12	1: 3.333	97.3% - 96.9%
935	66-66-8AA	8	430	360-22	1: 3.321	98.2% - 98.0%
935	66-76-8AA	8	500	360-22	1: 3.321	98.3% - 98.1%

POWER (SHAFT)

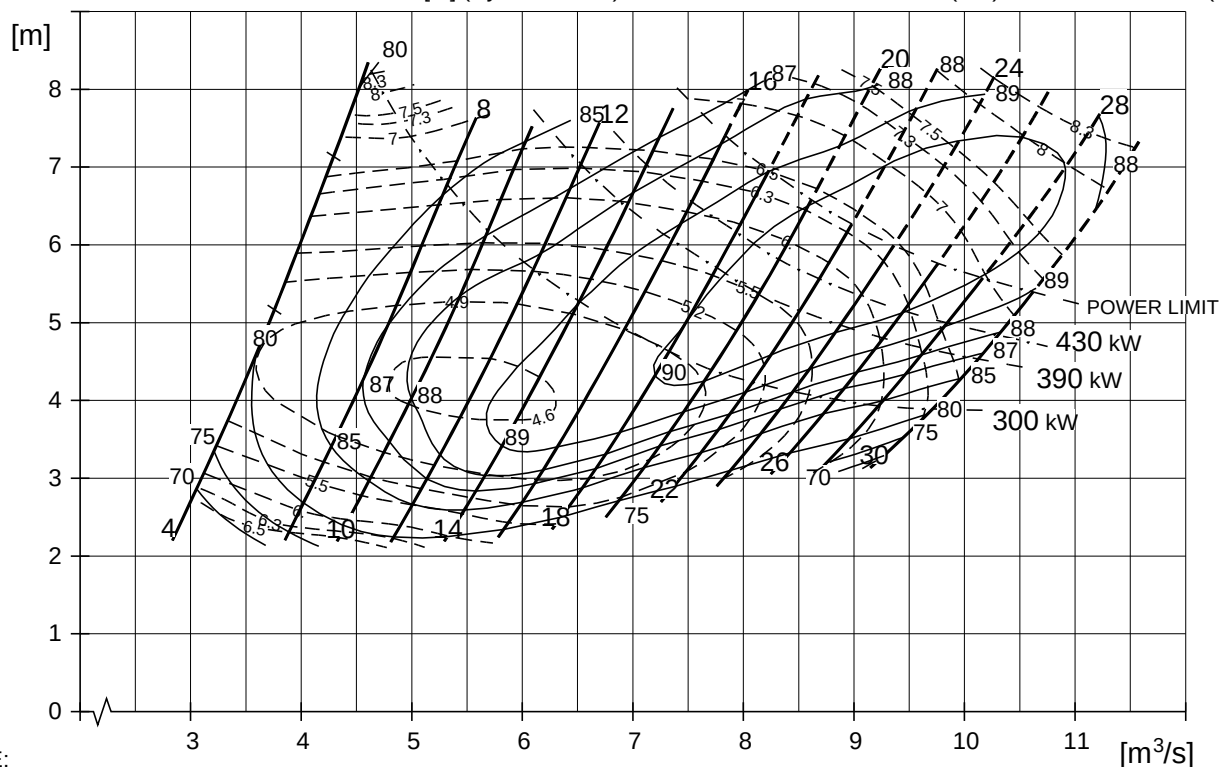
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

53- 227 C4E

DATE
2016-02-17

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
227 RPM

IMPELLER/HUB DIAMETER
1500 / 650 mm

GUIDE VANE(S)
70 deg

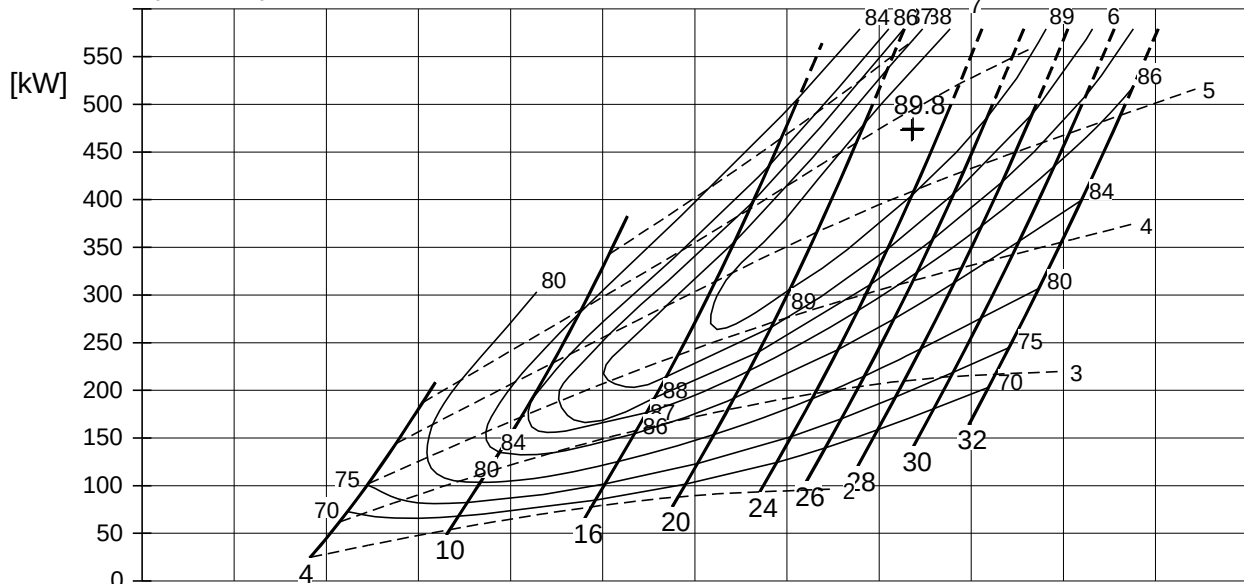
NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-12	1: 3.333	96.9% - 96.3%
905	66-56-8AA	8	390	350-12	1: 3.333	97.3% - 96.9%
935	66-66-8AA	8	430	360-22	1: 3.321	98.2% - 98.0%
935	66-76-8AA	8	500	360-22	1: 3.321	98.3% - 98.1%

POWER (SHAFT)

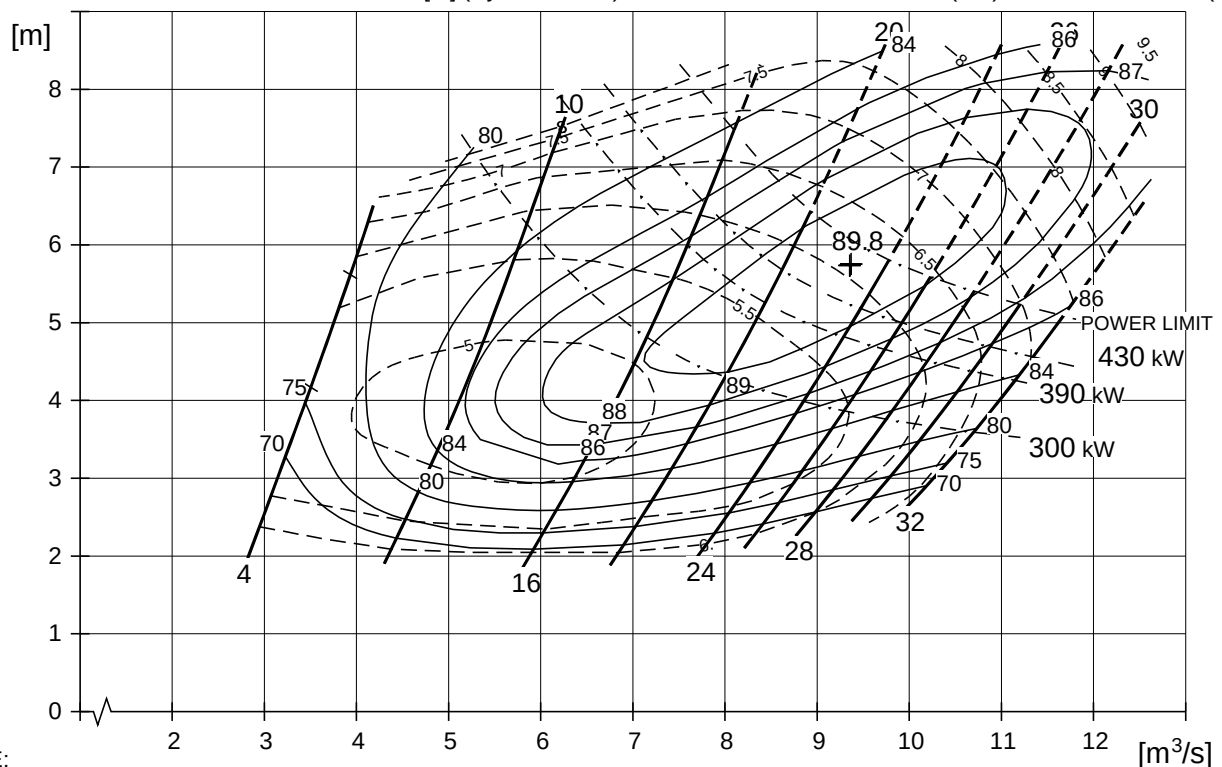
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

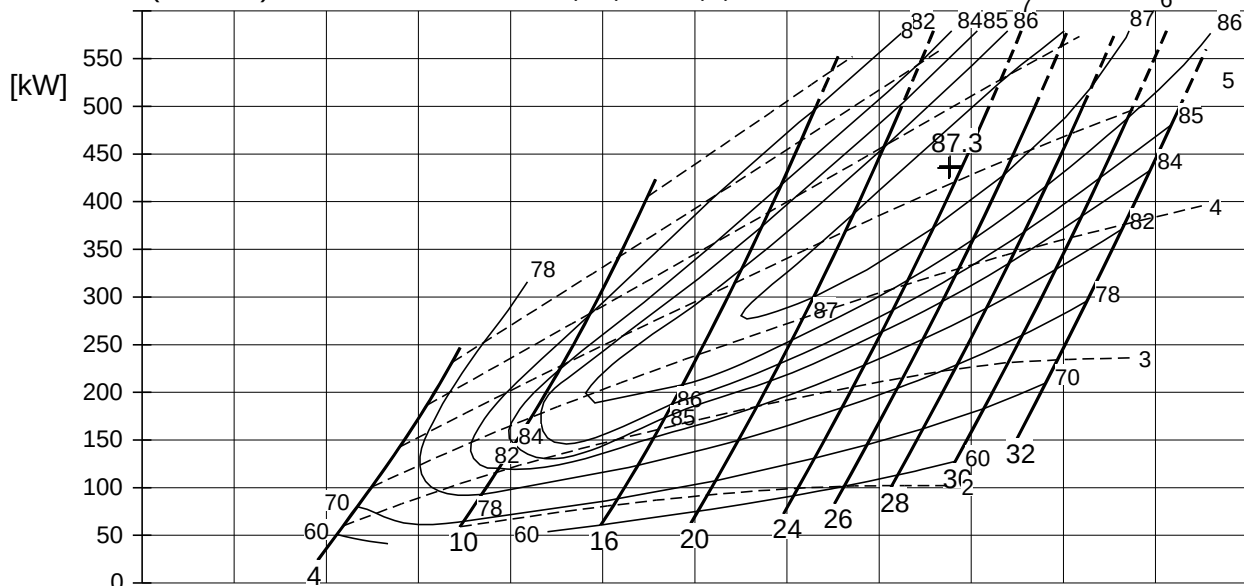
53- 227 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
227 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
77 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-12	1: 3.333	96.9% - 96.3%
905	66-56-8AA	8	390	350-12	1: 3.333	97.3% - 96.9%
935	66-66-8AA	8	430	360-22	1: 3.321	98.2% - 98.0%
935	66-76-8AA	8	500	360-22	1: 3.321	98.3% - 98.1%

POWER (SHAFT)

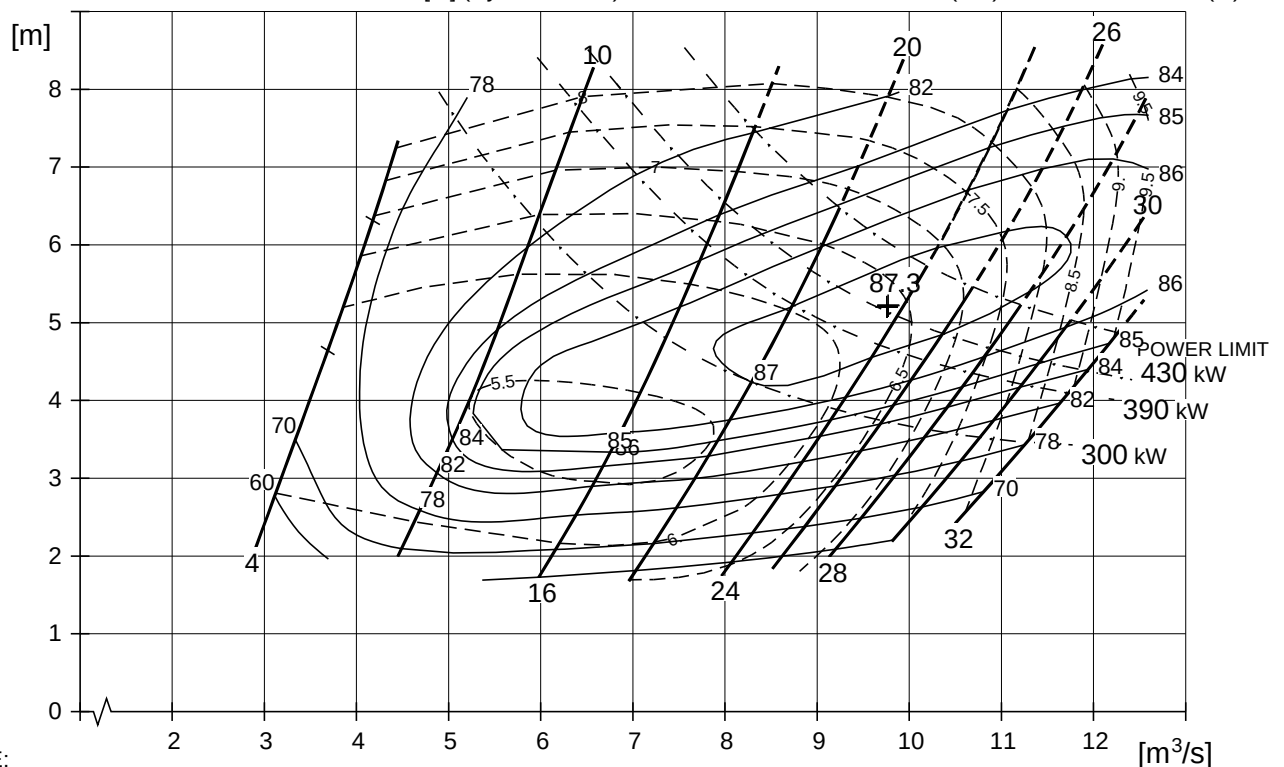
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

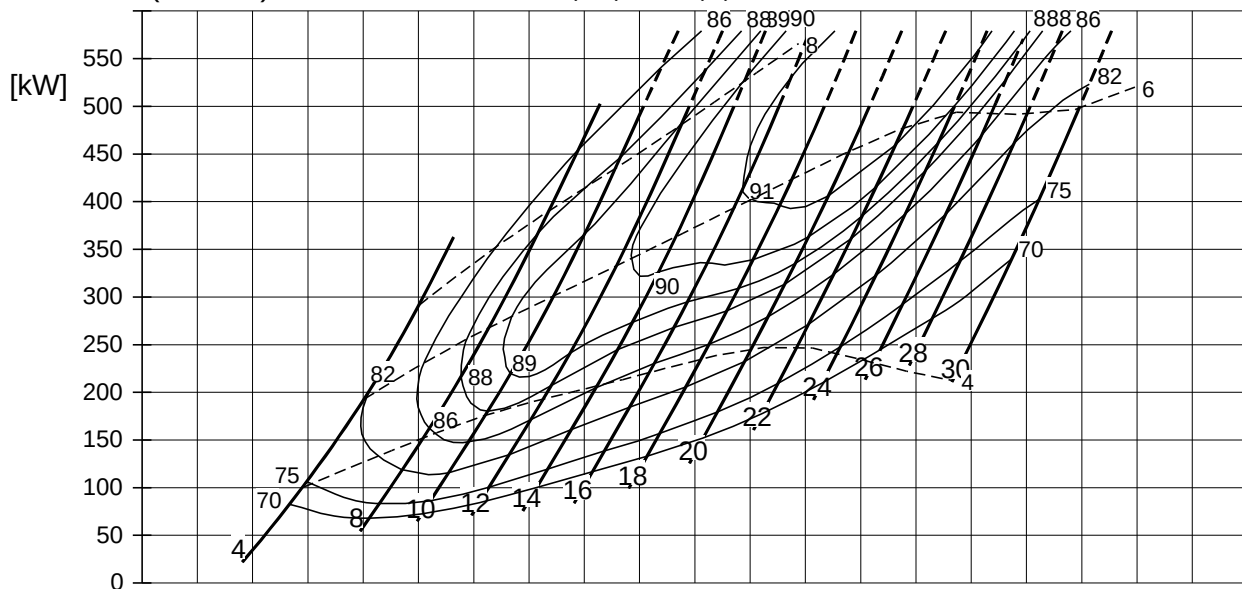
53- 252 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
252 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-12	1: 3.000	96.7% - 96.1%
905	66-56-8AA	8	350	350-22	1: 3.000	97.0% - 96.5%
935	66-66-8AA	8	430	360-22	1: 3.000	97.3% - 96.9%
935	66-76-8AA	8	500	360-22	1: 3.000	97.4% - 97.1%

POWER (SHAFT)

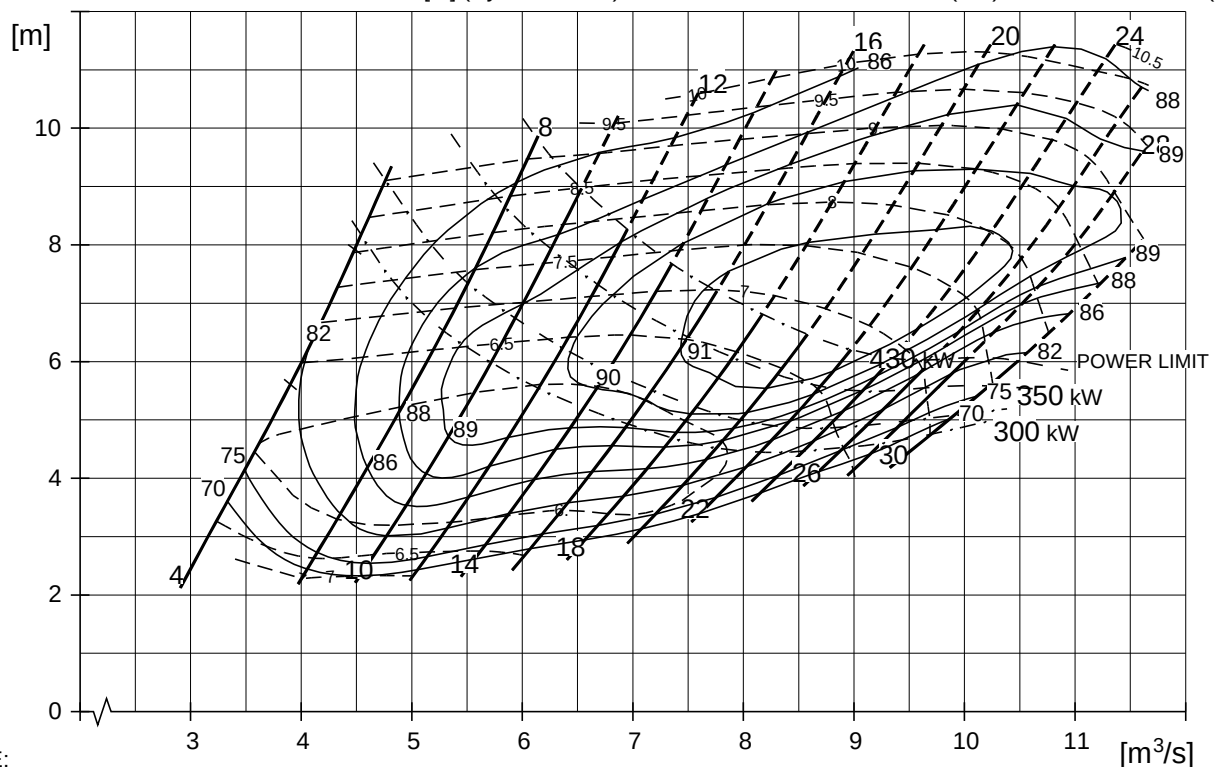
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

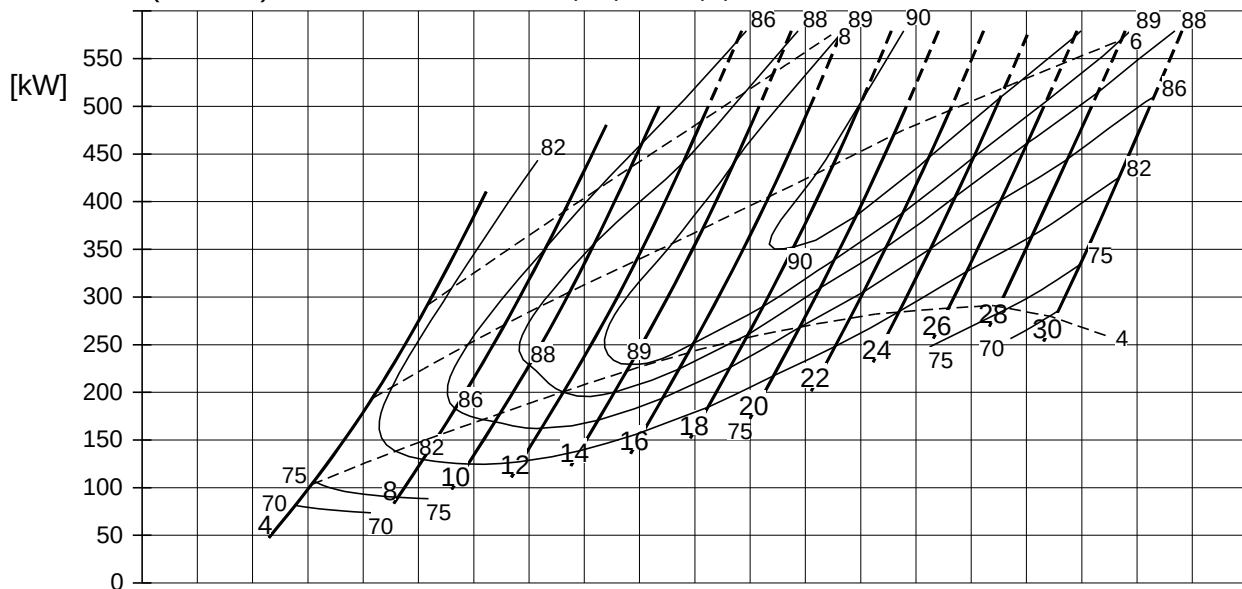
53- 252 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
252 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-12	1: 3.000	96.7% - 96.1%
905	66-56-8AA	8	350	350-22	1: 3.000	97.0% - 96.5%
935	66-66-8AA	8	430	360-22	1: 3.000	97.3% - 96.9%
935	66-76-8AA	8	500	360-22	1: 3.000	97.4% - 97.1%

POWER (SHAFT)

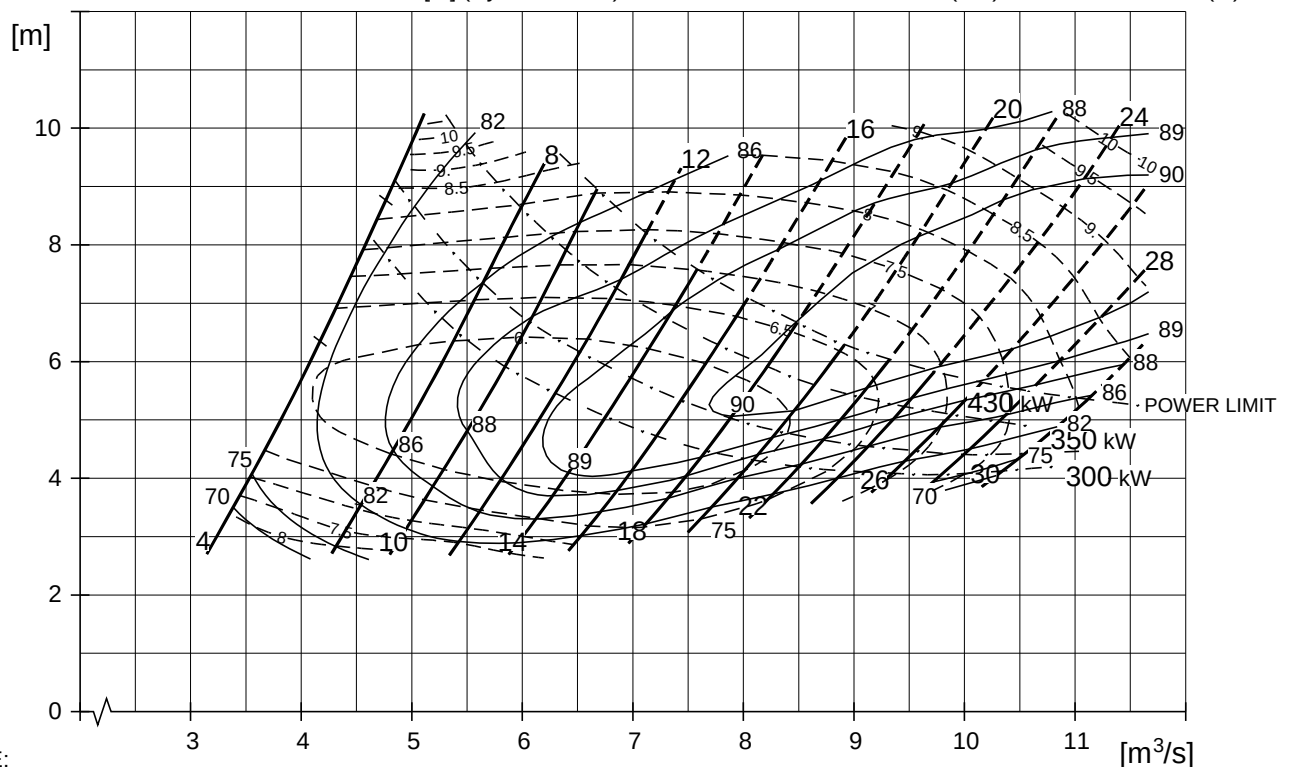
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

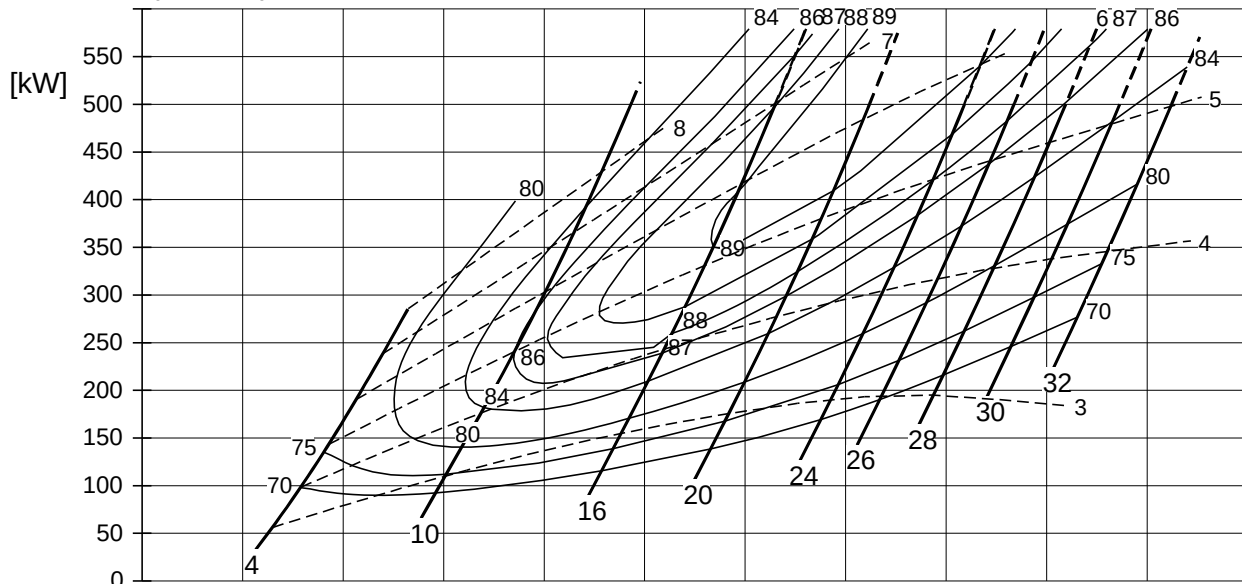
53- 252 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
252 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-12	1: 3.000	96.7% - 96.1%
905	66-56-8AA	8	350	350-22	1: 3.000	97.0% - 96.5%
935	66-66-8AA	8	430	360-22	1: 3.000	97.3% - 96.9%
935	66-76-8AA	8	500	360-22	1: 3.000	97.4% - 97.1%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)



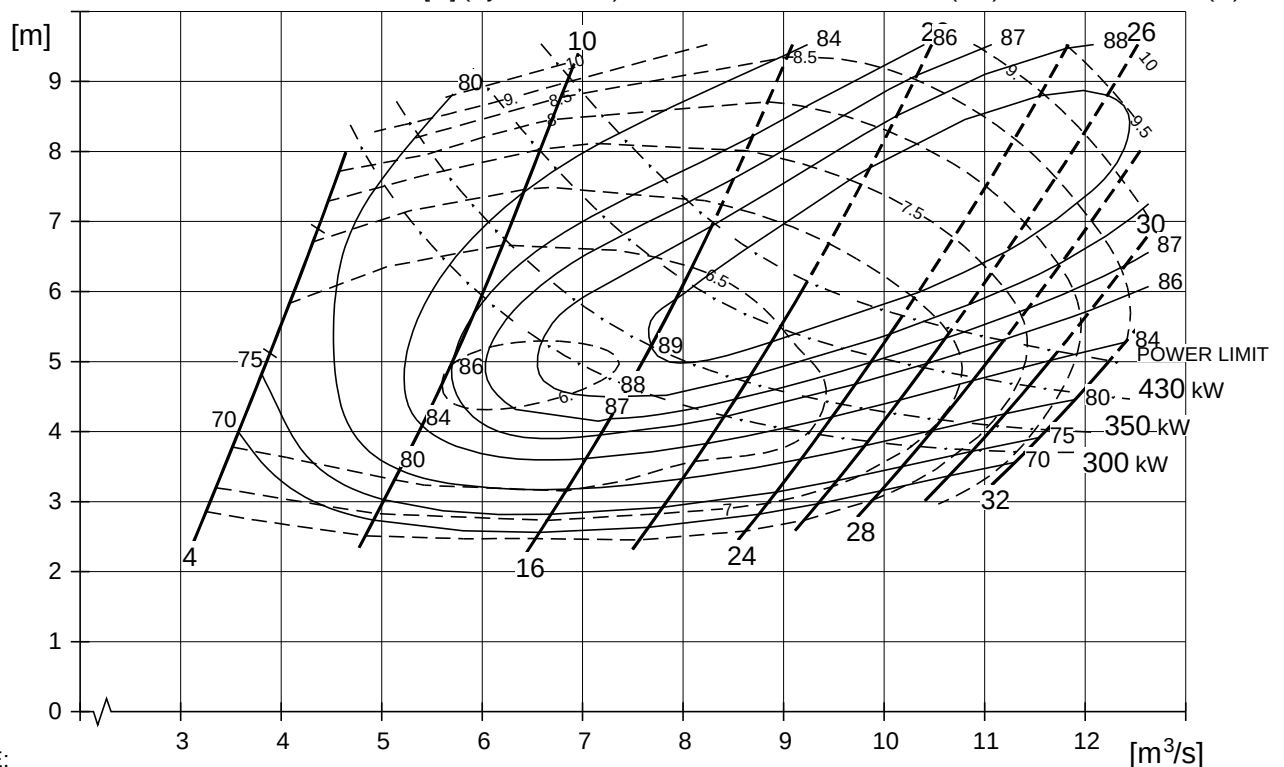
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

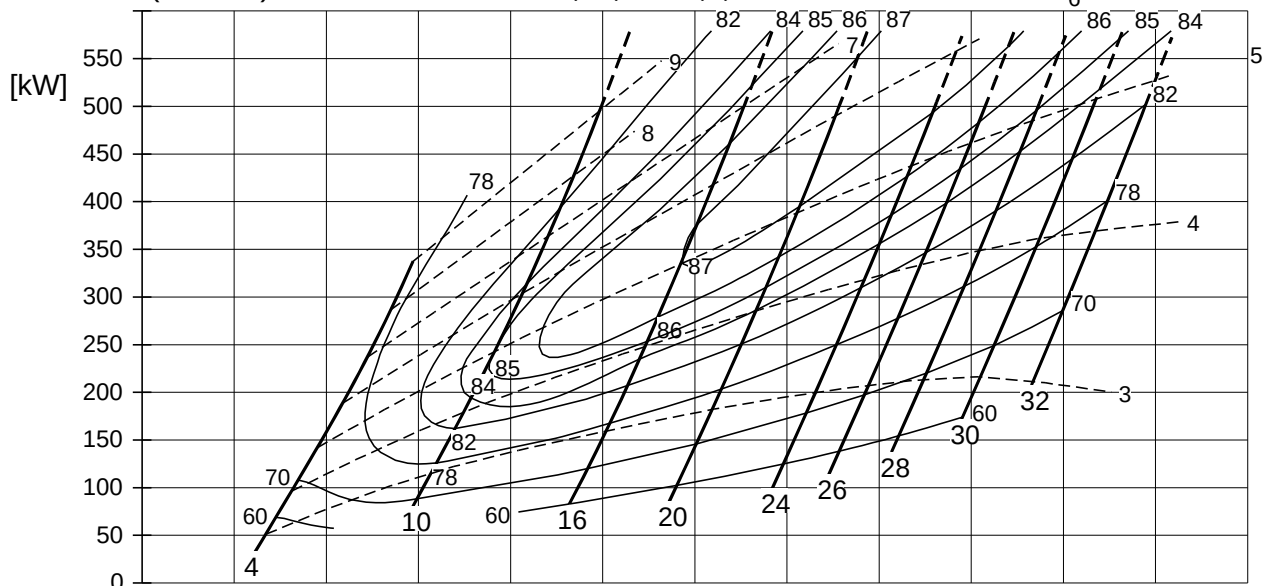
53- 252 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
252 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
77 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-8AA	8	300 kW	350-12	1: 3.000	96.7% - 96.1%
905	66-56-8AA	8	350	350-22	1: 3.000	97.0% - 96.5%
935	66-66-8AA	8	430	360-22	1: 3.000	97.3% - 96.9%
935	66-76-8AA	8	500	360-22	1: 3.000	97.4% - 97.1%

POWER (SHAFT)

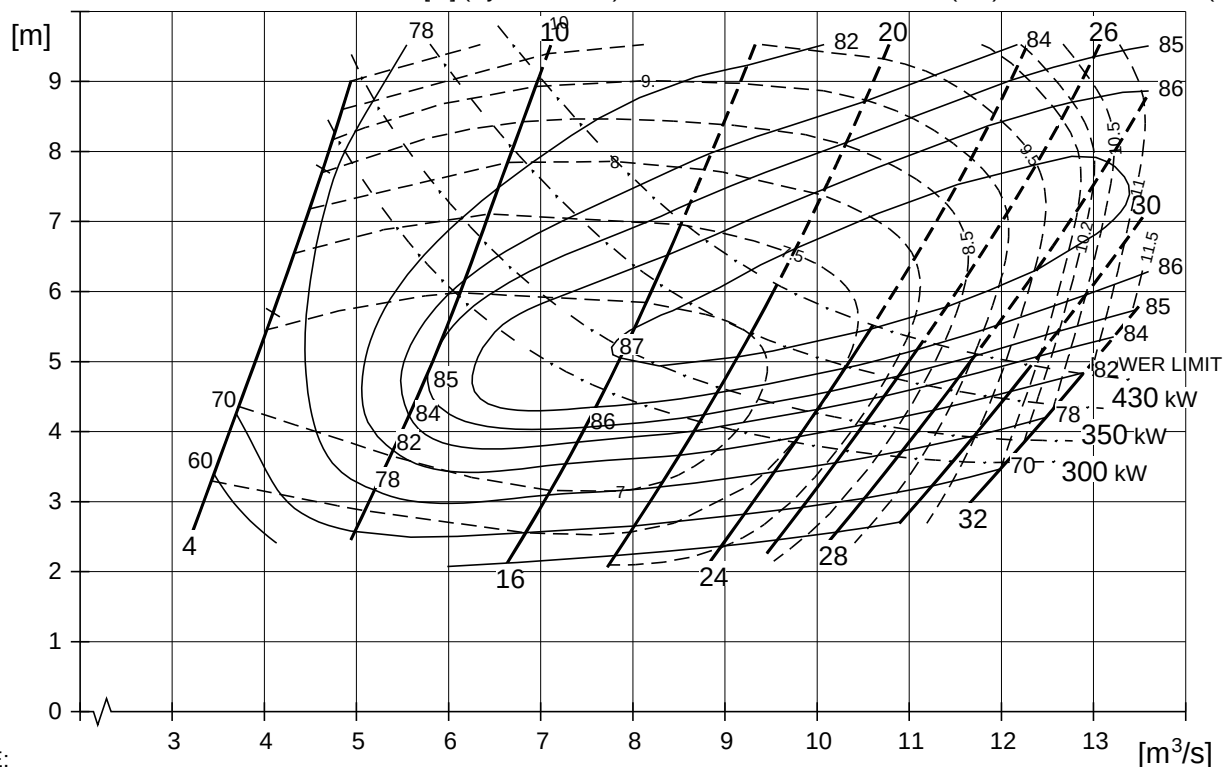
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

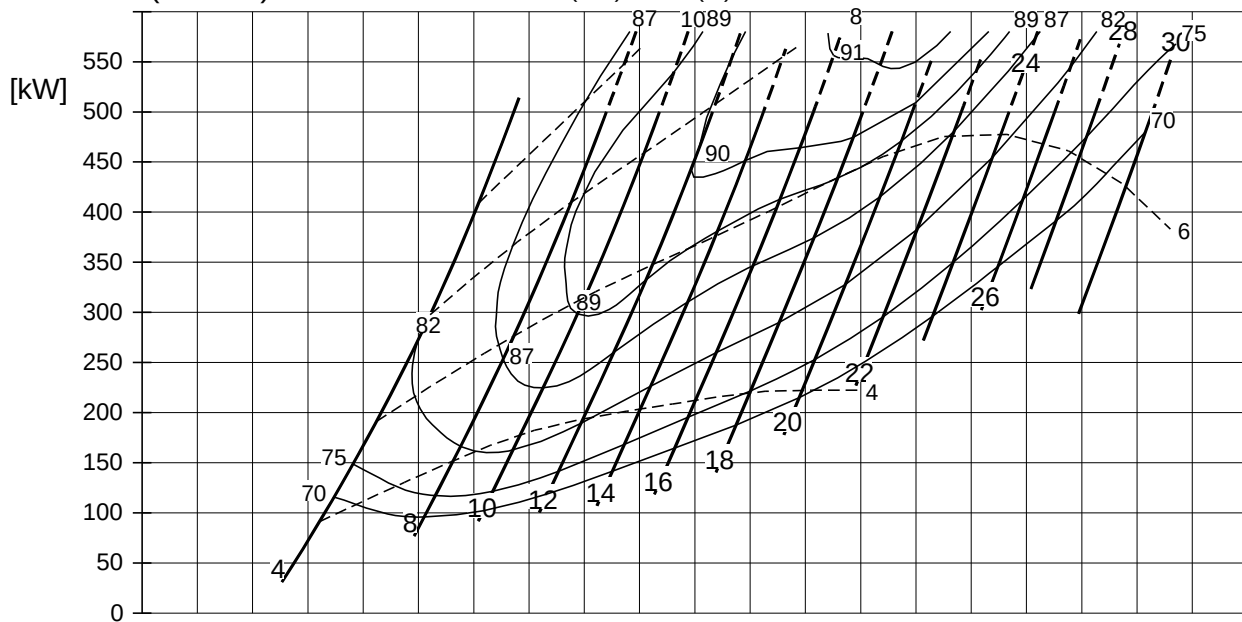
CURVE NO

53- 283C4E

DATE 2016-02-17	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 283 RPM		CURVE NO 53- 283C4E	
IMPELLER/HUB DIAMETER 1500 / 650 mm	GUIDE VANE(S) 57 deg		NO. OF BLADES 4		AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 30 deg	
DRIVE UNIT 935	GENERATOR 66-66-8AA	POLES 8	GEN. POWER 430 kW	GEAR TYPE 360-22	GEAR RATIO 1: 2.674	GEAR EFFICIENCY (Load:1/1-3/4) 97.1% - 96.7%
935	66-76-8AA	8	500	360-22	1: 2.674	97.3% - 96.9%

POWER (SHAFT)

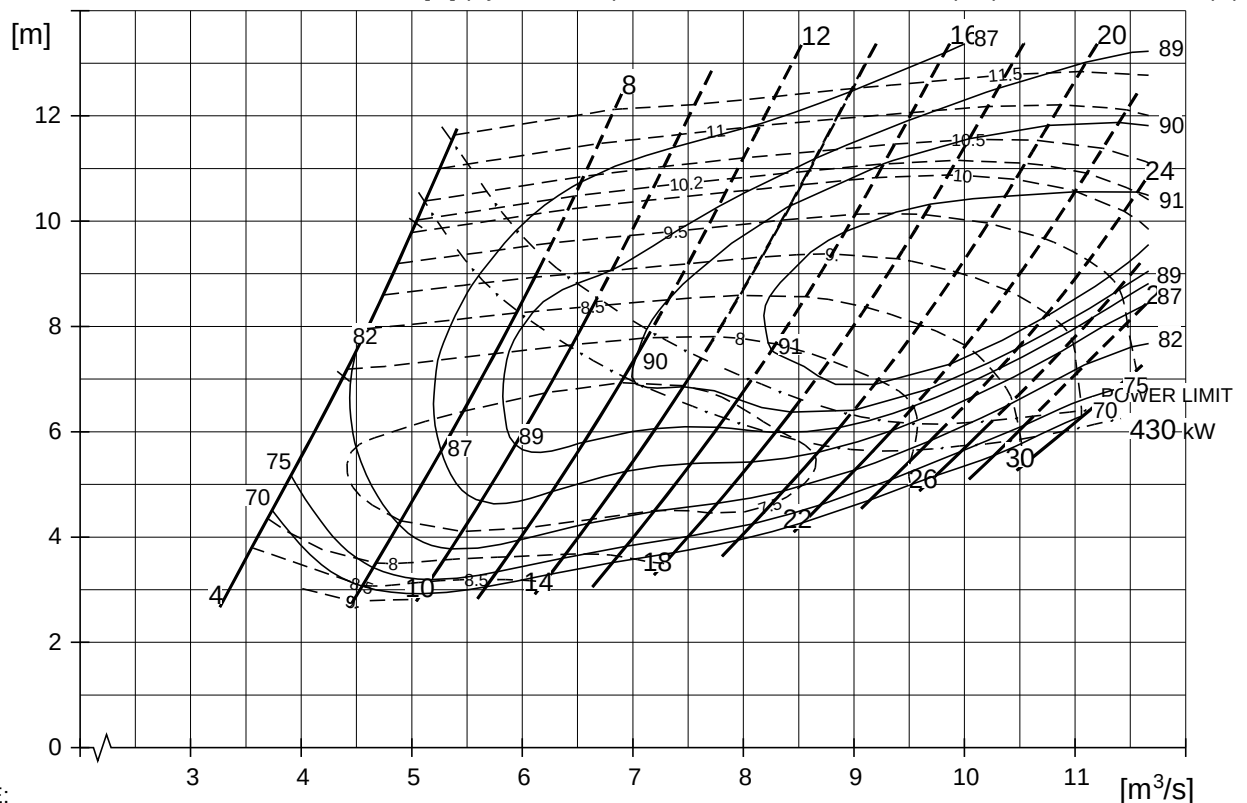
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

53- 283C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
283 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
935GENERATOR
66-66-8AAPOLES
8GEN. POWER
430 kWGEAR TYPE
360-22GEAR RATIO
1: 2.674GEAR EFFICIENCY (Load:1/1-3/4)
97.1% - 96.7%

935

66-76-8AA

8

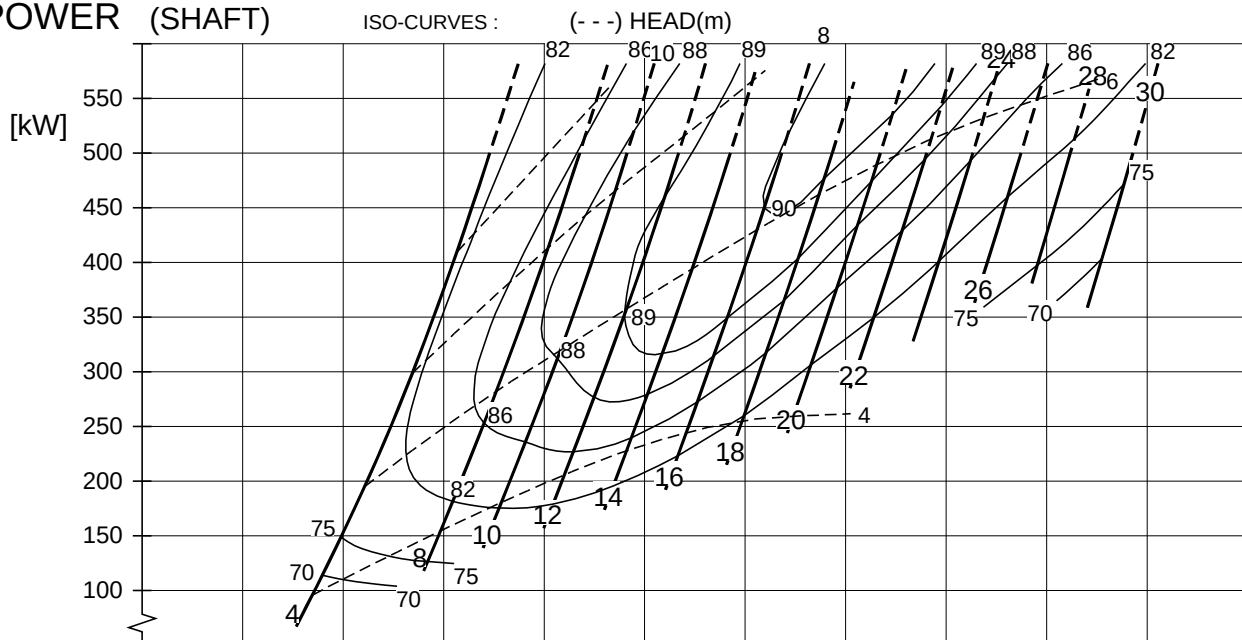
500

360-22

1: 2.674

97.3% - 96.9%

POWER (SHAFT)



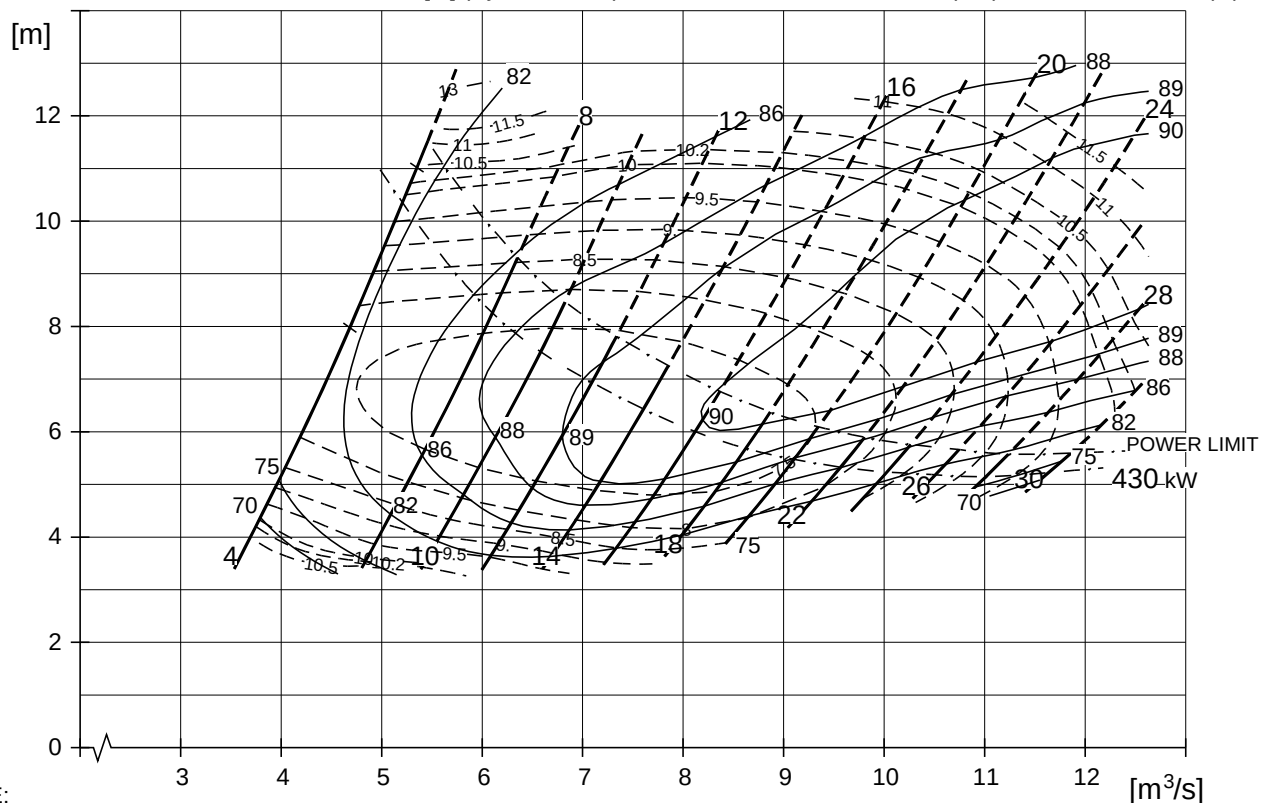
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

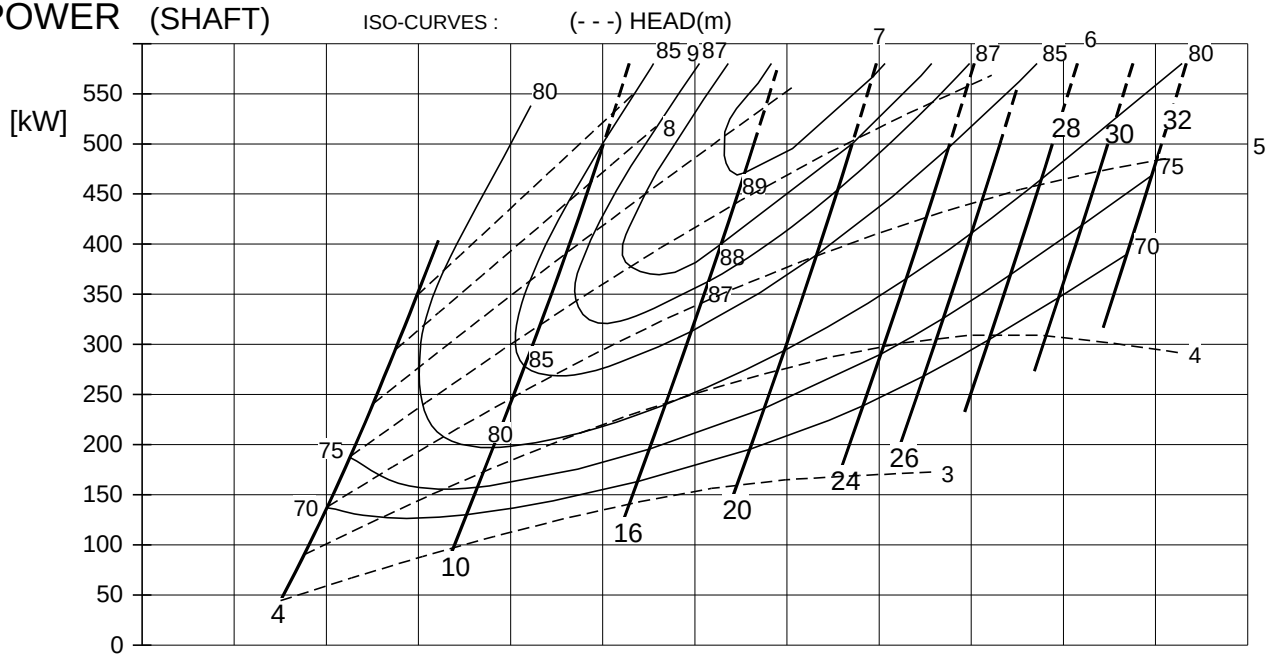
EL 7650

CURVE NO

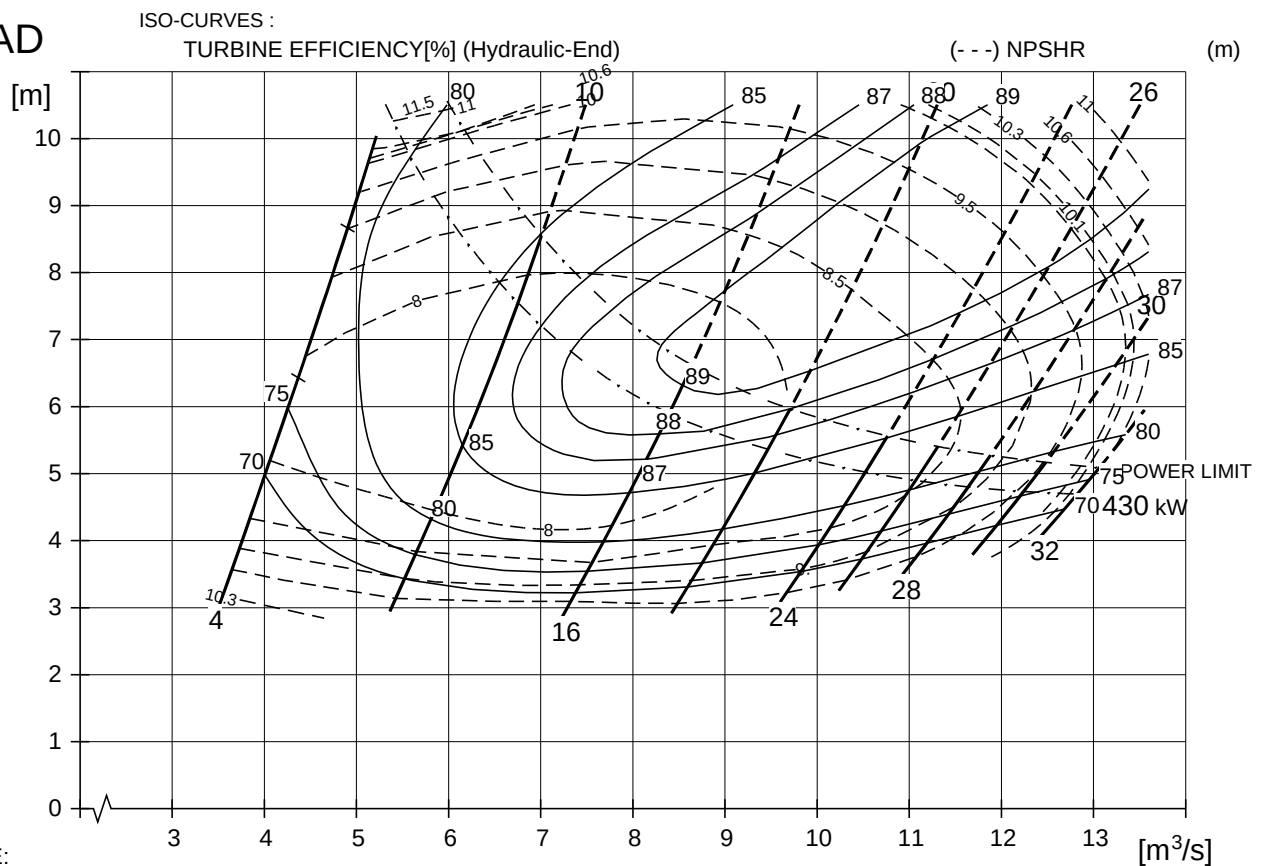
53- 283C4E

DATE 2016-02-17	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 283 RPM		CURVE NO 53- 283C4E	
IMPELLER/HUB DIAMETER 1500 / 650 mm	GUIDE VANE(S) 70 deg		NO. OF BLADES 4		AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 32 deg	
DRIVE UNIT 935	GENERATOR 66-66-8AA	POLES 8	GEN. POWER 430 kW	GEAR TYPE 360-22	GEAR RATIO 1: 2.674	GEAR EFFICIENCY (Load:1/1-3/4) 97.1% - 96.7%
935	66-76-8AA	8	500	360-22	1: 2.674	97.3% - 96.9%

POWER (SHAFT)



HEAD



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

53- 283C4E

DATE
2016-02-17

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
283 RPM

IMPELLER/HUB DIAMETER
1500 / 650 mm

GUIDE VANE(S)
77 deg

NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT
935

GENERATOR
66-66-8AA

POLES
8

GEN. POWER
430 kW

GEAR TYPE
360-22

GEAR RATIO
1: 2.674

GEAR EFFICIENCY (Load:1/1-3/4)
97.1% - 96.7%

935

66-76-8AA

8

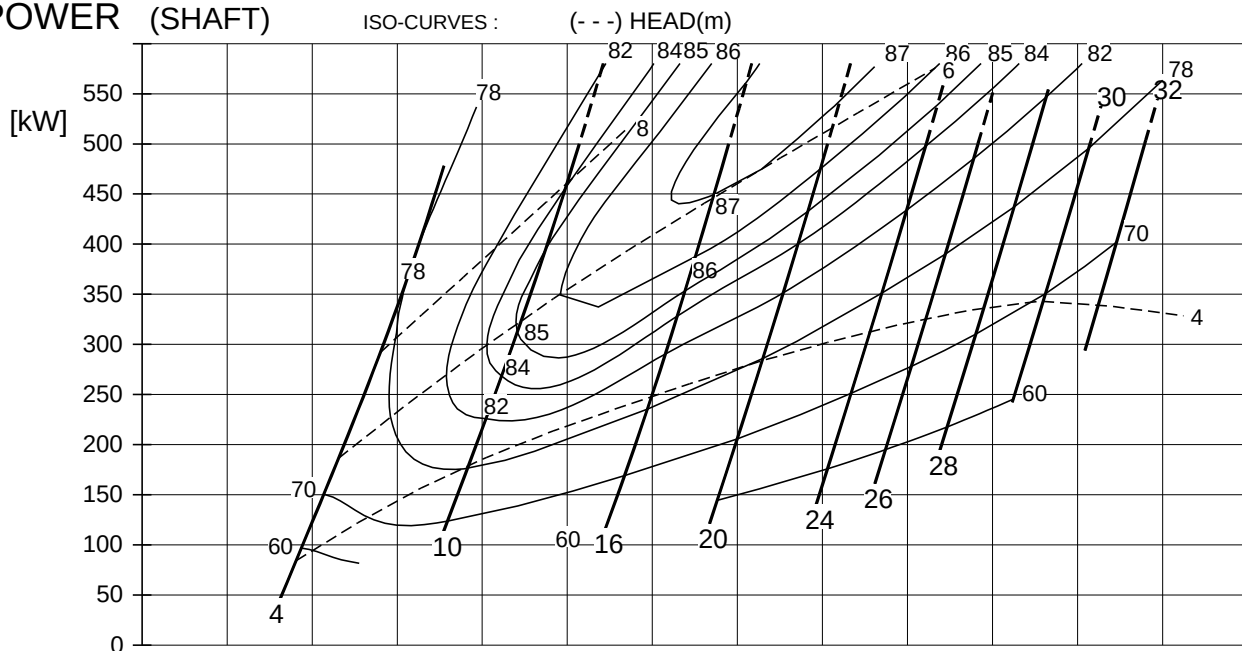
500

360-22

1: 2.674

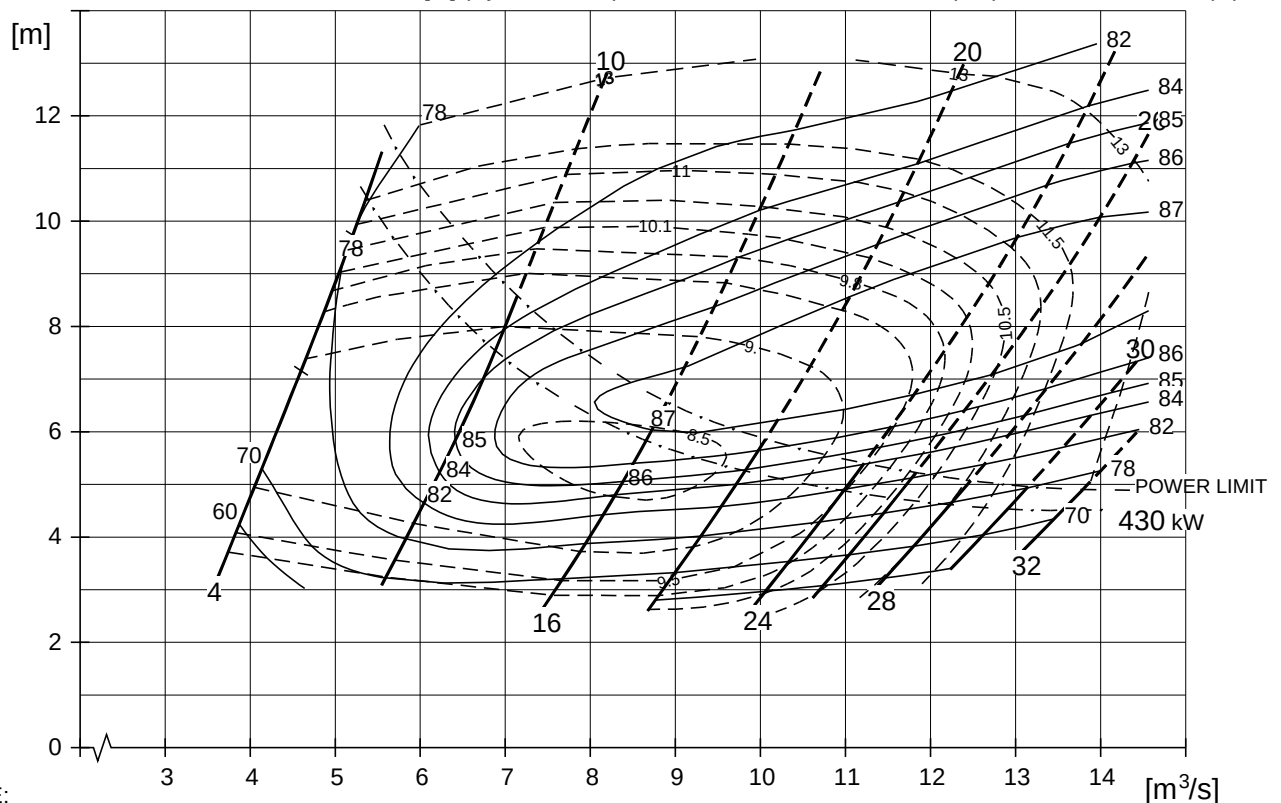
97.3% - 96.9%

POWER (SHAFT)



HEAD

ISO-CURVES : TURBINE EFFICIENCY[%] (Hydraulic-End) (---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

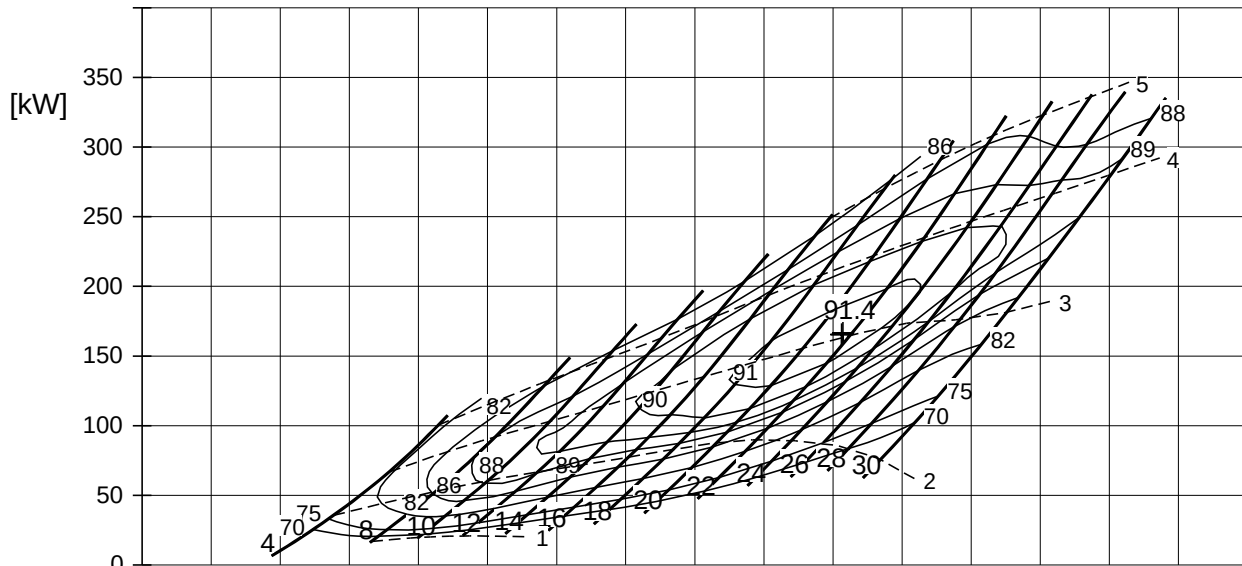
53- 168C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
168 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-6BC	6	200 kW	350-11	1: 6.000	96.4% - 95.2%
835	54-52-6AA	6	250	350-11	1: 6.000	97.0% - 96.1%
905	66-46-6AA	6	310	360-21	1: 6.000	97.5% - 96.8%
865	54-66-6AA	6	340	360-21	1: 6.000	97.6% - 97.0%
905	66-56-6AA	6	400	360-21	1: 6.000	97.9% - 97.4%

POWER (SHAFT)

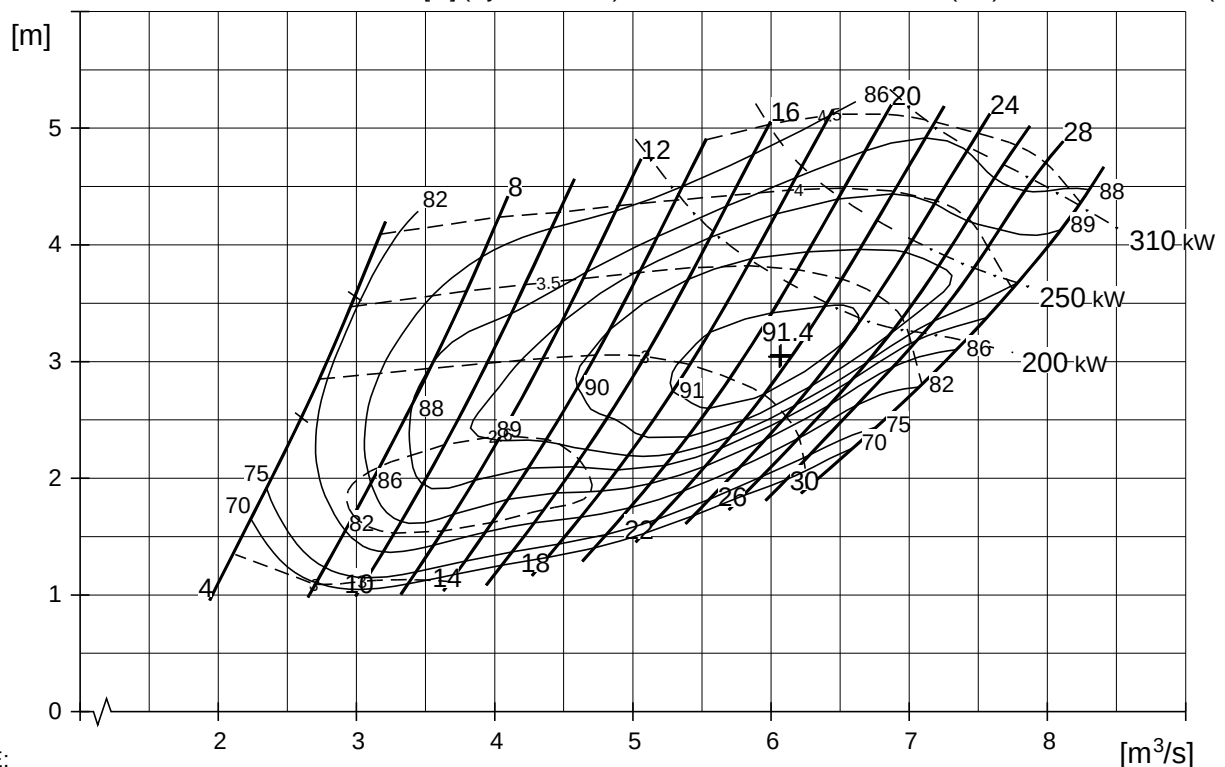
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

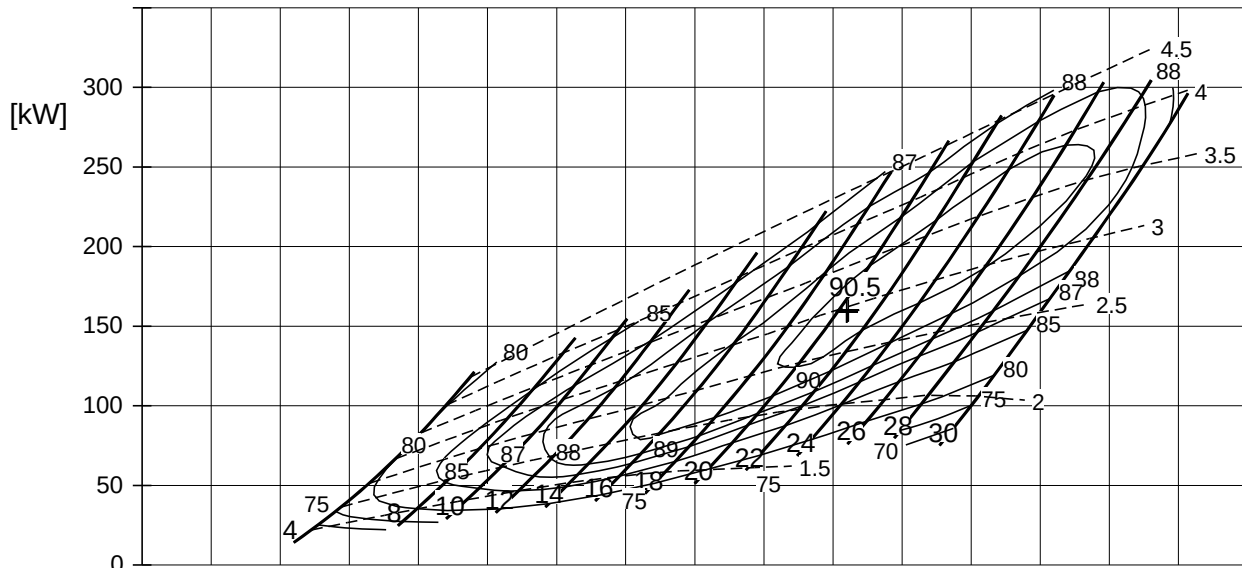
53- 168C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
168 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-6BC	6	200 kW	350-11	1: 6.000	96.4% - 95.2%
835	54-52-6AA	6	250	350-11	1: 6.000	97.0% - 96.1%
905	66-46-6AA	6	310	360-21	1: 6.000	97.5% - 96.8%
865	54-66-6AA	6	340	360-21	1: 6.000	97.6% - 97.0%
905	66-56-6AA	6	400	360-21	1: 6.000	97.9% - 97.4%

POWER (SHAFT)

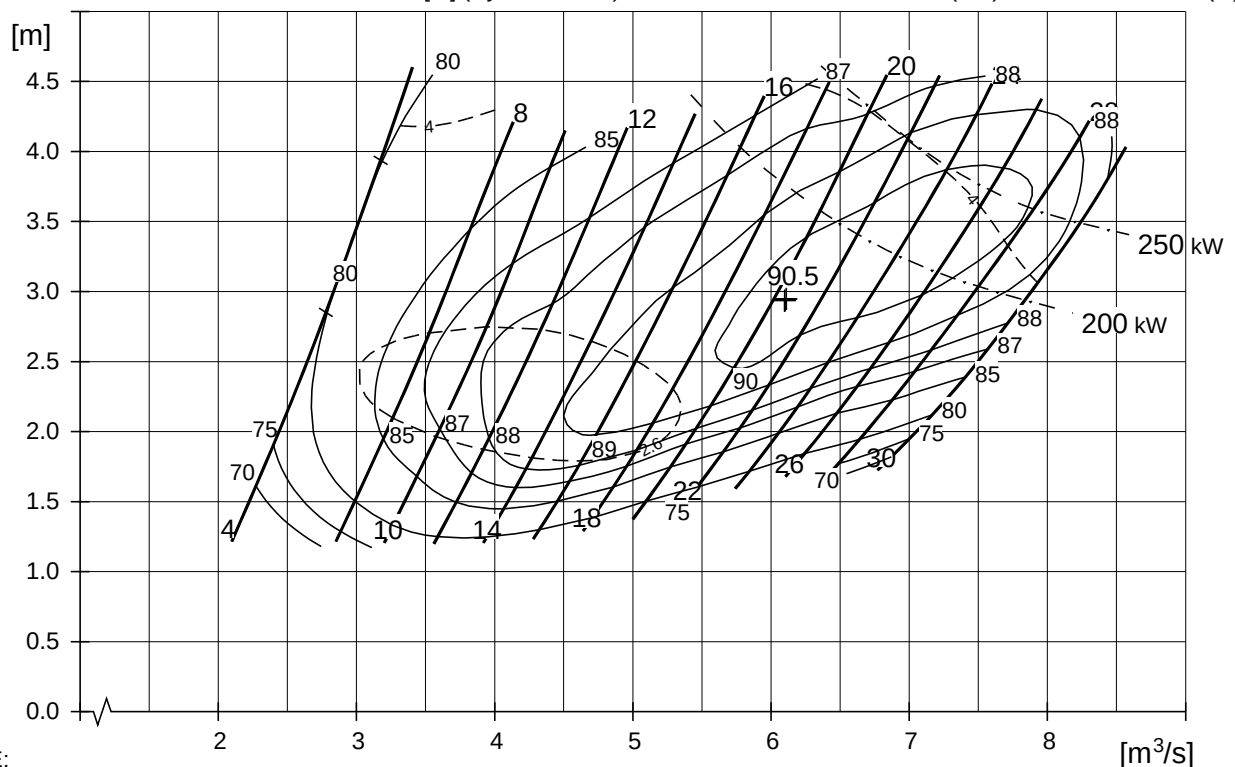
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

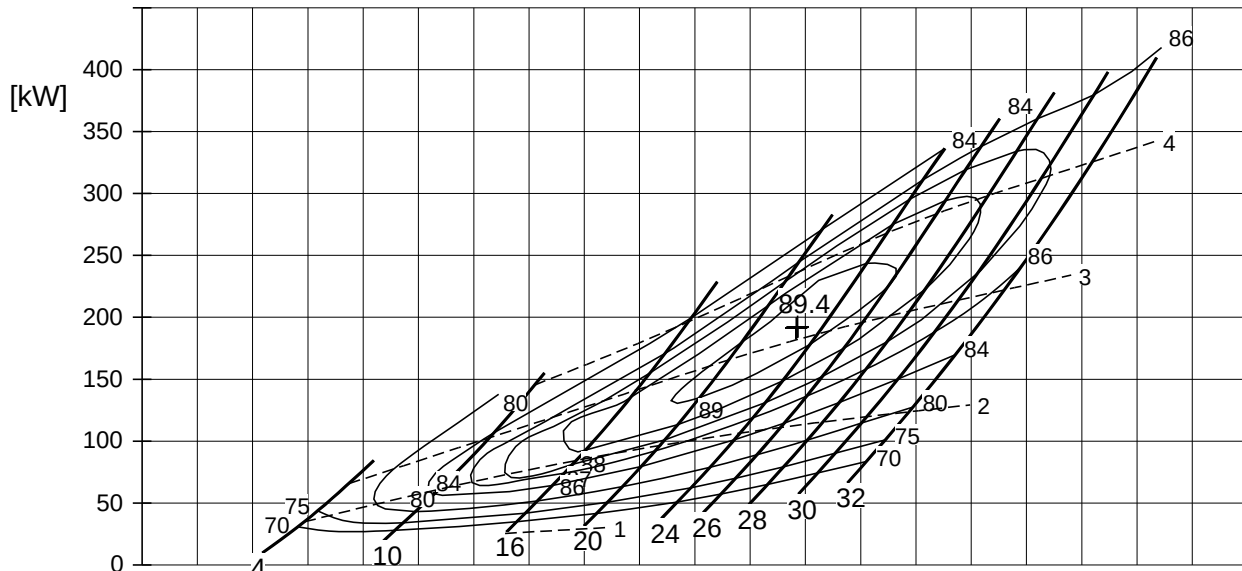
53- 168C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
168 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-6BC	6	200 kW	350-11	1: 6.000	96.4% - 95.2%
835	54-52-6AA	6	250	350-11	1: 6.000	97.0% - 96.1%
905	66-46-6AA	6	310	360-21	1: 6.000	97.5% - 96.8%
865	54-66-6AA	6	340	360-21	1: 6.000	97.6% - 97.0%
905	66-56-6AA	6	400	360-21	1: 6.000	97.9% - 97.4%

POWER (SHAFT)

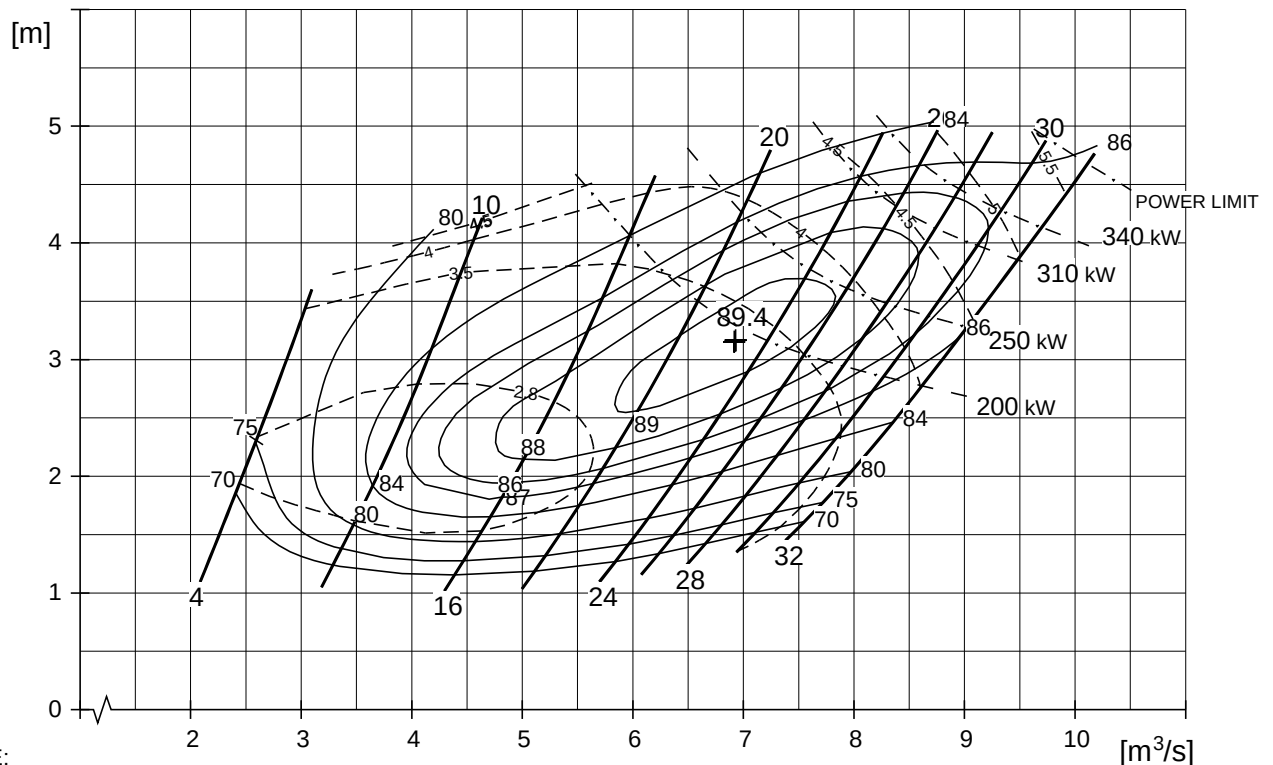
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

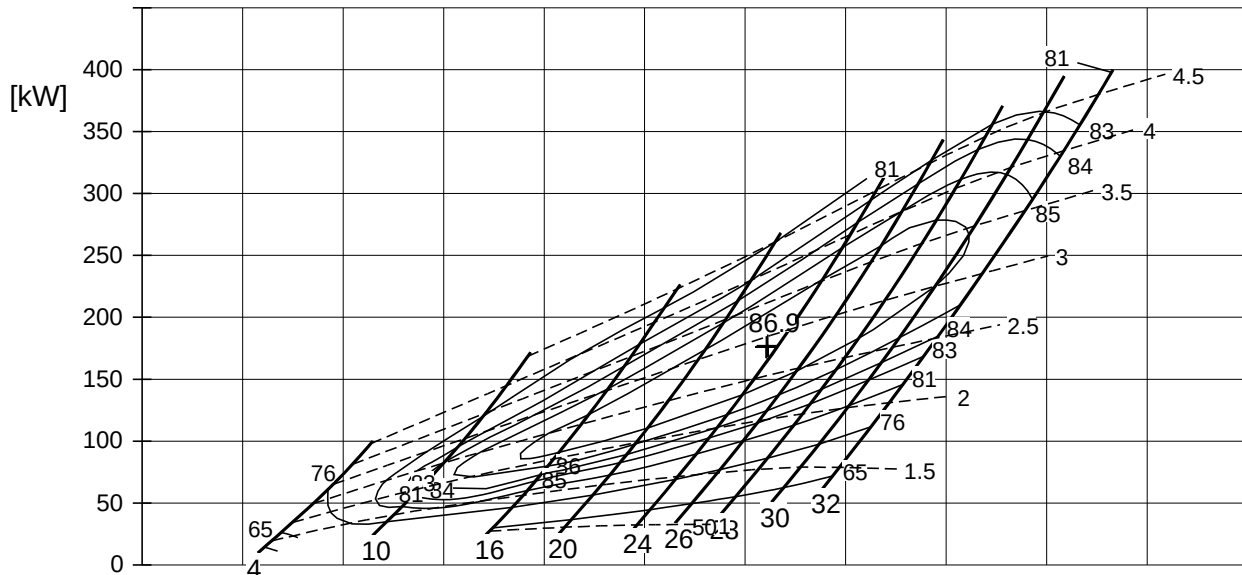
53- 168C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
168 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
77 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
765	43-56-6BC	6	200 kW	350-11	1: 6.000	96.4% - 95.2%
835	54-52-6AA	6	250	350-11	1: 6.000	97.0% - 96.1%
905	66-46-6AA	6	310	360-21	1: 6.000	97.5% - 96.8%
865	54-66-6AA	6	340	360-21	1: 6.000	97.6% - 97.0%
905	66-56-6AA	6	400	360-21	1: 6.000	97.9% - 97.4%

POWER (SHAFT)

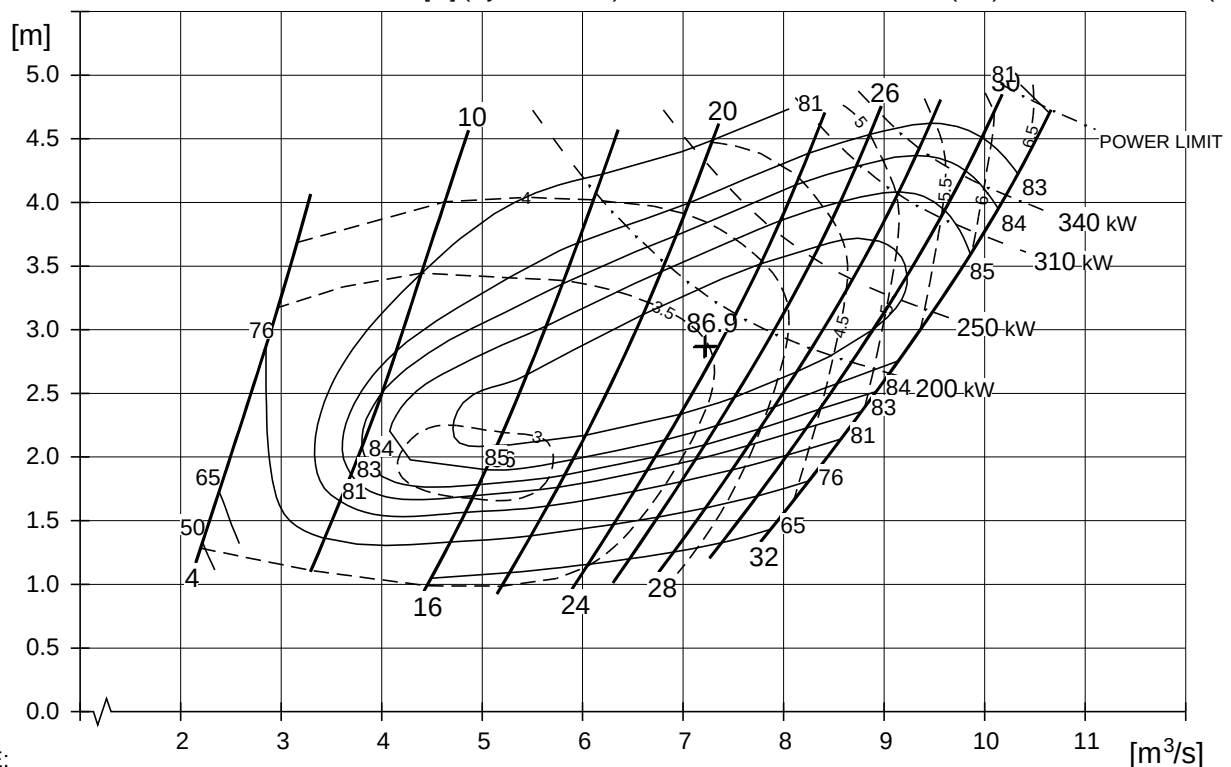
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

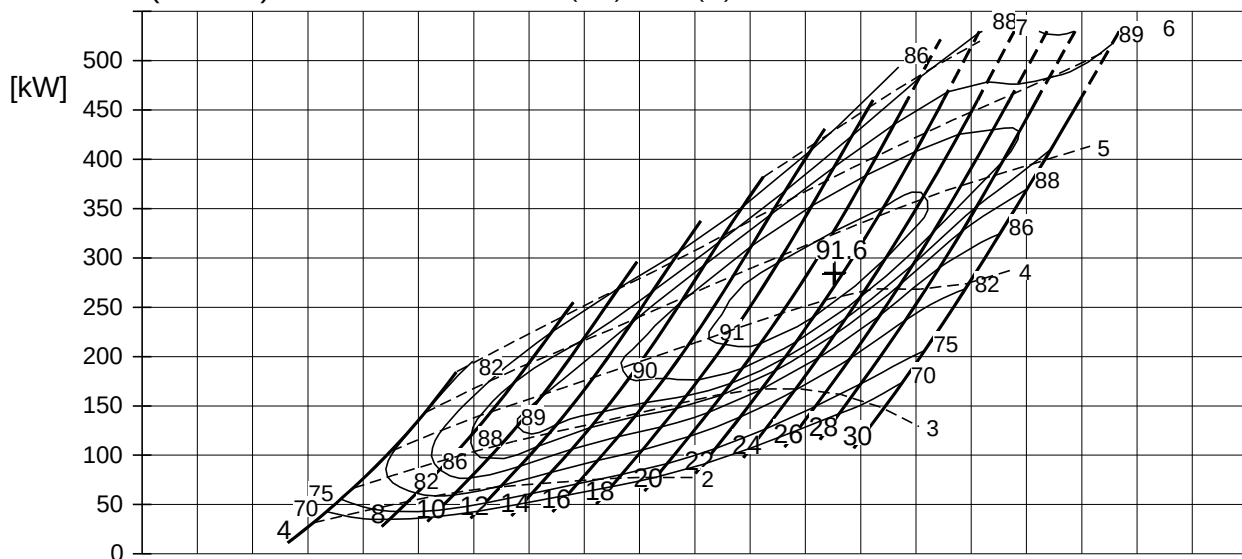
53- 201 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
201 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
835	54-52-6AA	6	250 kW	350-11	1: 5.000	96.5% - 95.4%
905	66-46-6AA	6	310	360-21	1: 5.000	97.1% - 96.3%
865	54-66-6AA	6	340	360-21	1: 5.000	97.3% - 96.5%
905	66-56-6AA	6	400	360-21	1: 5.000	97.6% - 97.0%
935	66-76-6AA	6	460	360-21	1: 5.000	97.8% - 97.3%
935	66-66-6AA	6	460	360-21	1: 5.000	97.8% - 97.3%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)



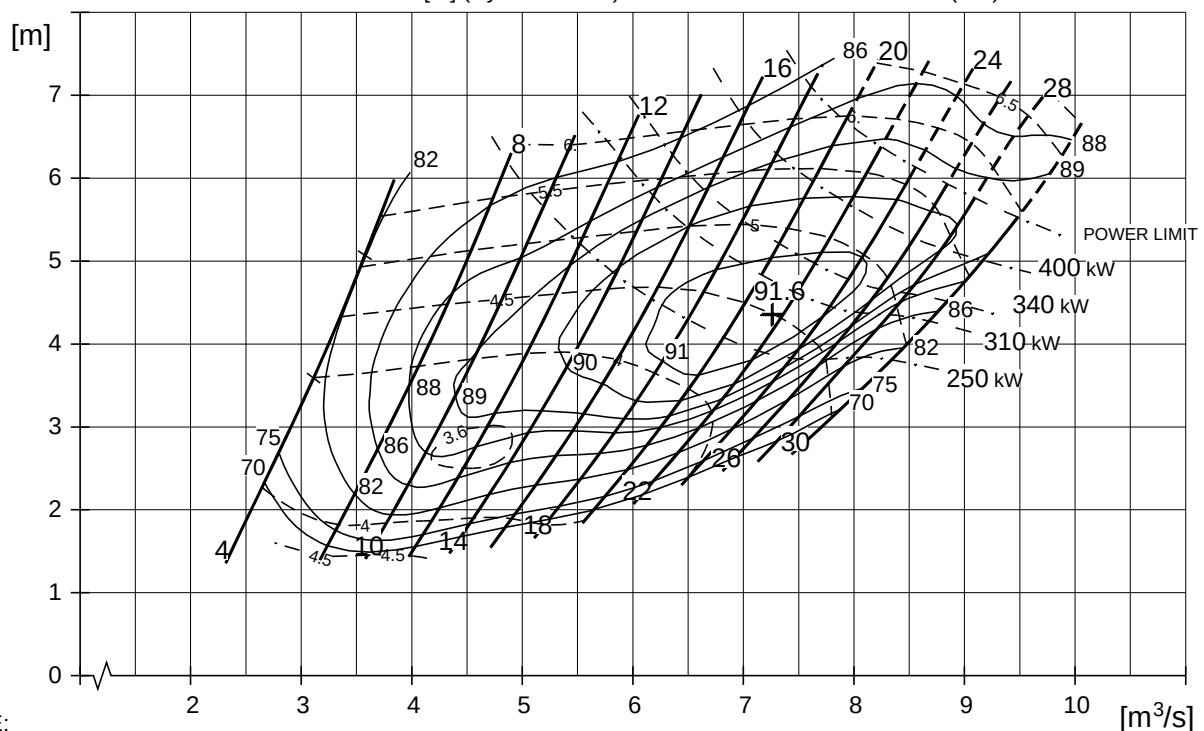
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

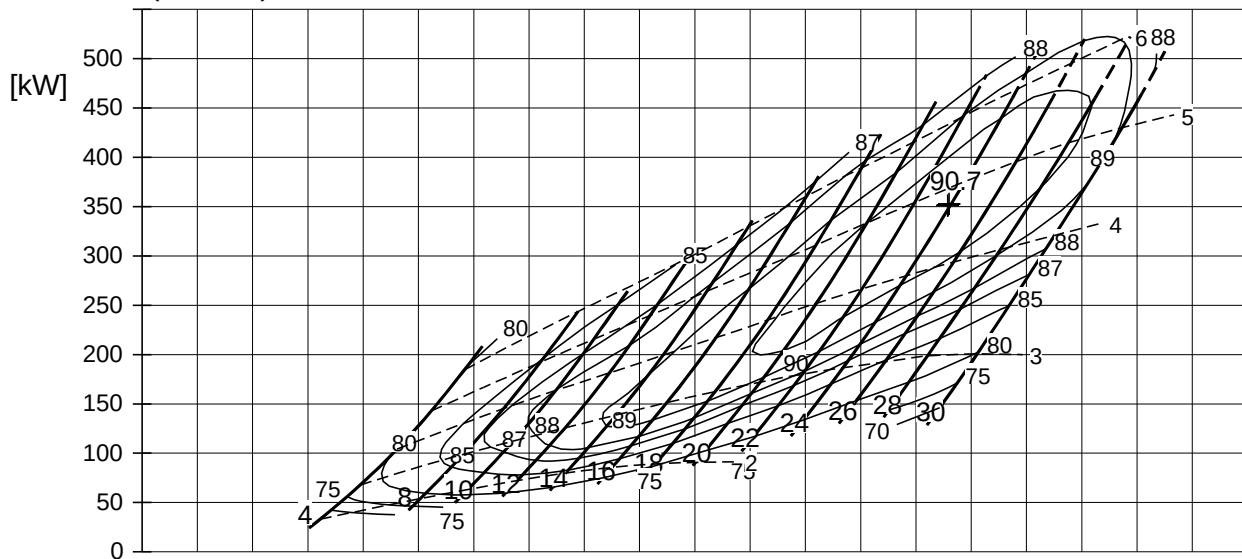
53- 201 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
201 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
835	54-52-6AA	6	250 kW	350-11	1: 5.000	96.5% - 95.4%
905	66-46-6AA	6	310	360-21	1: 5.000	97.1% - 96.3%
865	54-66-6AA	6	340	360-21	1: 5.000	97.3% - 96.5%
905	66-56-6AA	6	400	360-21	1: 5.000	97.6% - 97.0%
935	66-76-6AA	6	460	360-21	1: 5.000	97.8% - 97.3%
935	66-66-6AA	6	460	360-21	1: 5.000	97.8% - 97.3%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)



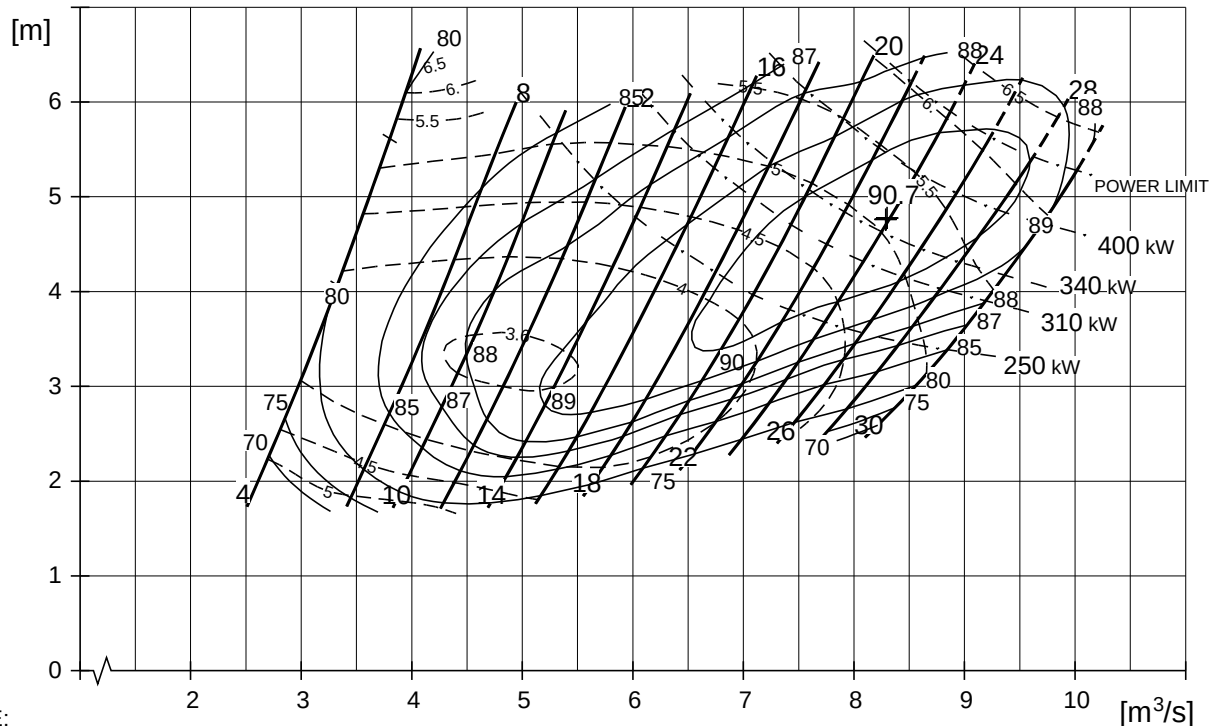
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

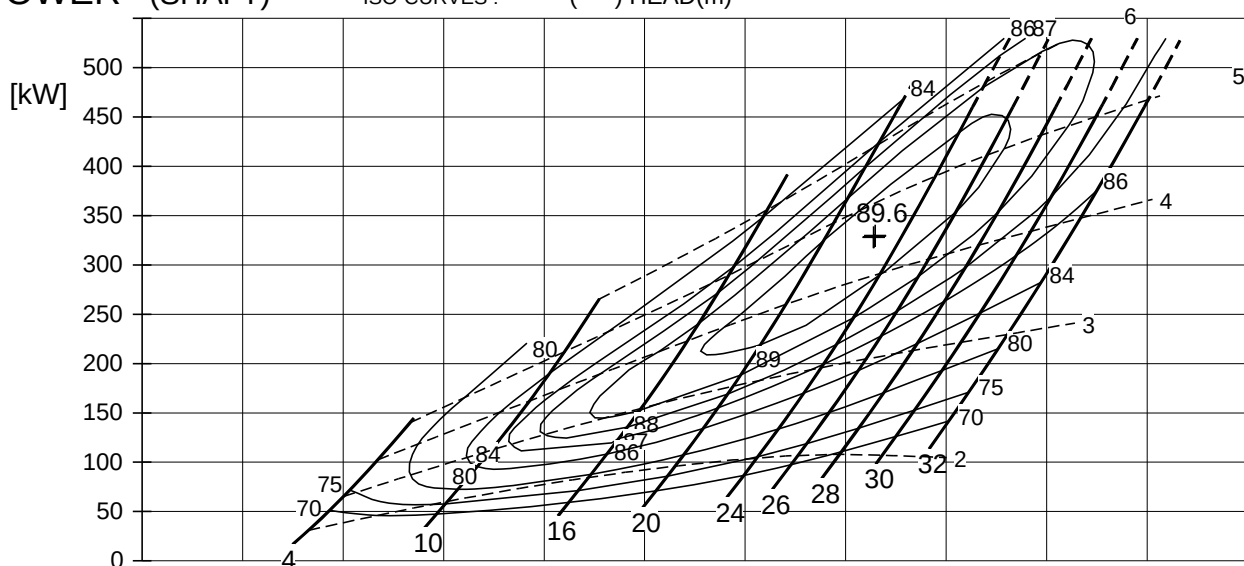
53- 201 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
201 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
835	54-52-6AA	6	250 kW	350-11	1: 5.000	96.5% - 95.4%
905	66-46-6AA	6	310	360-21	1: 5.000	97.1% - 96.3%
865	54-66-6AA	6	340	360-21	1: 5.000	97.3% - 96.5%
905	66-56-6AA	6	400	360-21	1: 5.000	97.6% - 97.0%
935	66-76-6AA	6	460	360-21	1: 5.000	97.8% - 97.3%
935	66-66-6AA	6	460	360-21	1: 5.000	97.8% - 97.3%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)



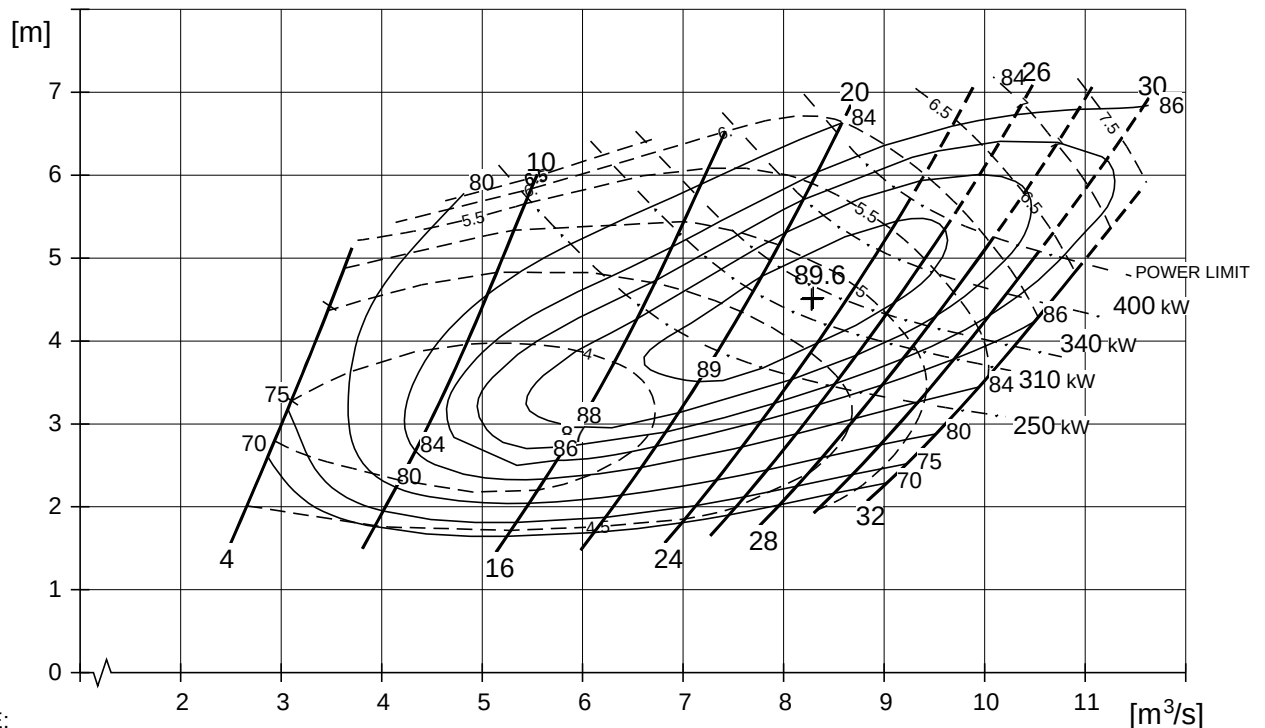
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

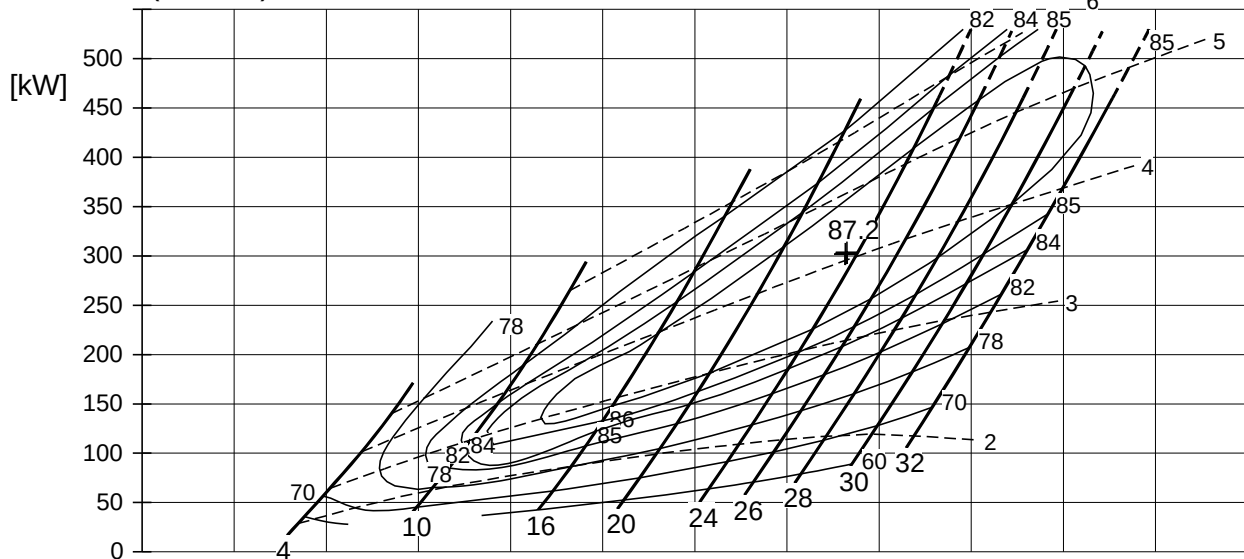
CURVE NO

53- 201 C4EDATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
201 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
77 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **32** deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
835	54-52-6AA	6	250 kW	350-11	1: 5.000	96.5% - 95.4%
905	66-46-6AA	6	310	360-21	1: 5.000	97.1% - 96.3%
865	54-66-6AA	6	340	360-21	1: 5.000	97.3% - 96.5%
905	66-56-6AA	6	400	360-21	1: 5.000	97.6% - 97.0%
935	66-76-6AA	6	460	360-21	1: 5.000	97.8% - 97.3%
935	66-66-6AA	6	460	360-21	1: 5.000	97.8% - 97.3%

POWER (SHAFT)

ISO-CURVES : (- - -) HEAD(m)



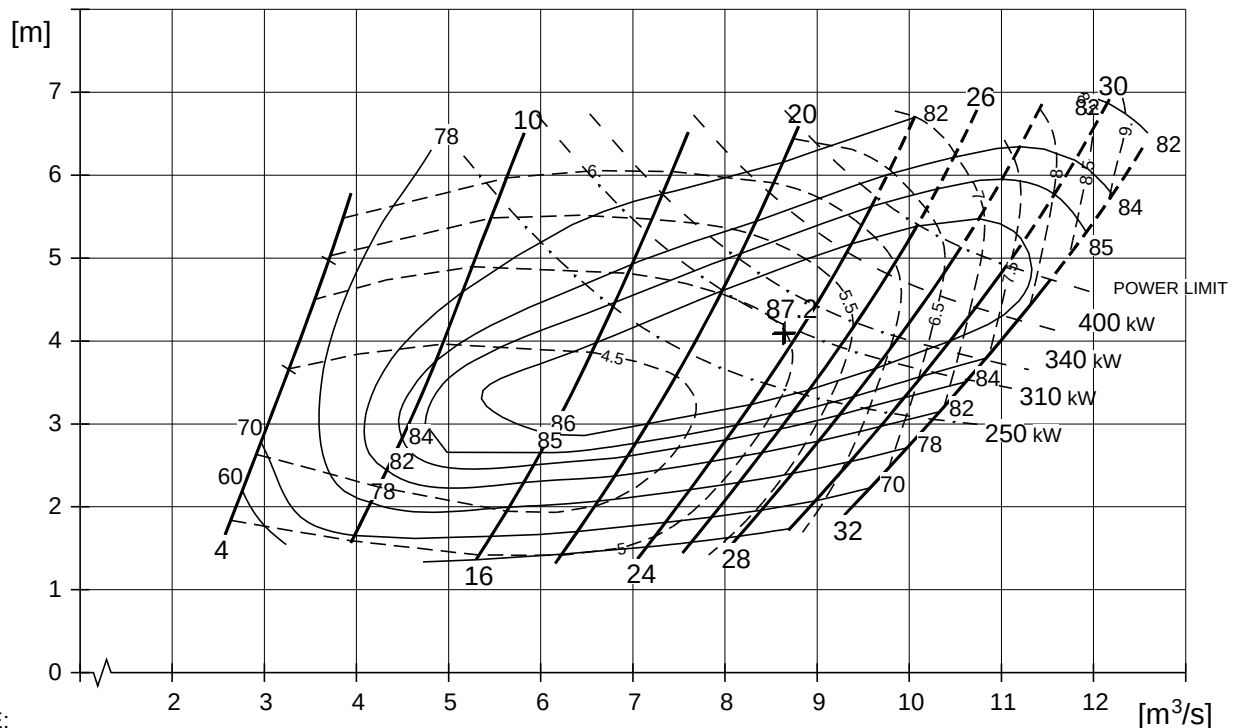
HEAD

ISO-CURVES :

TURBINE EFFICIENCY[%] (Hydraulic-End)

(- - -) NPSHR

(m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

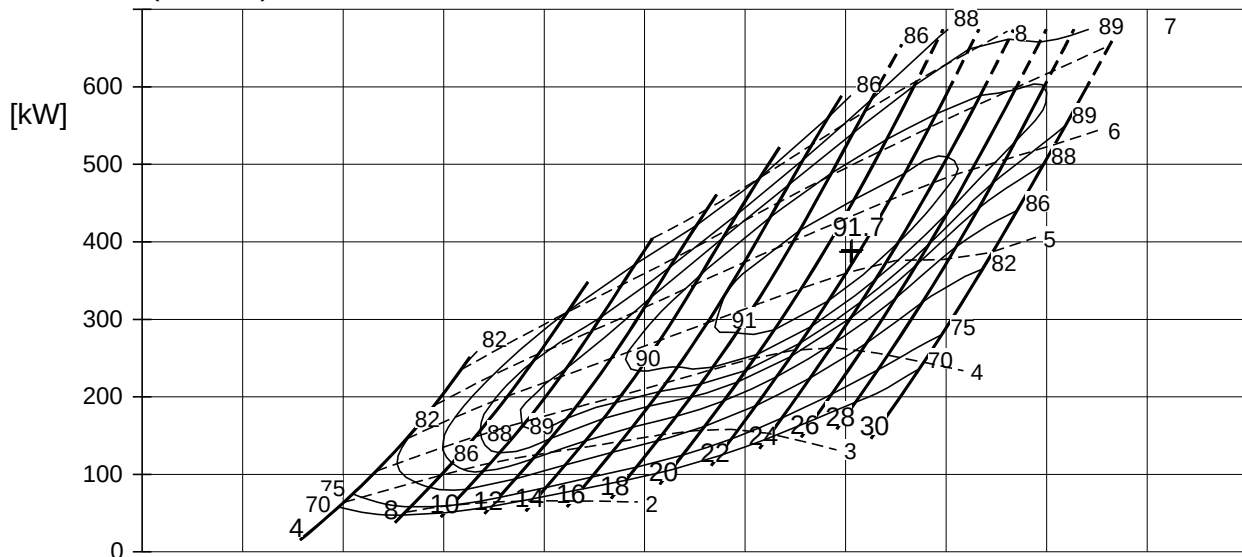
53- 223C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
223 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
835	54-52-6AA	6	250 kW	350-12	1: 4.500	96.6% - 95.9%
905	66-46-6AA	6	310	350-12	1: 4.500	97.0% - 96.4%
865	54-66-6AA	6	340	350-12	1: 4.500	97.1% - 96.6%
905	66-56-6AA	6	380	350-22	1: 4.500	97.3% - 96.9%
935	66-66-6AA	6	500	360-22	1: 4.500	97.6% - 97.3%
935	66-76-6AA	6	600	360-22	1: 4.500	97.7% - 97.5%

POWER (SHAFT)

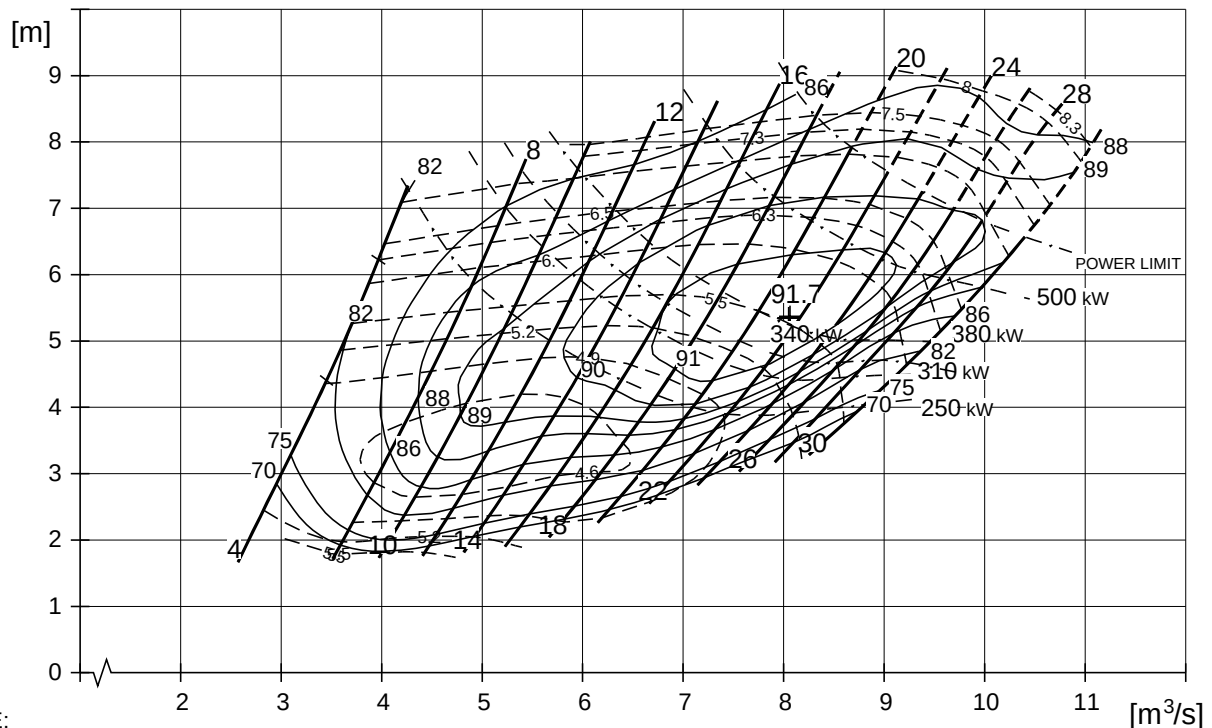
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

53- 223C4E

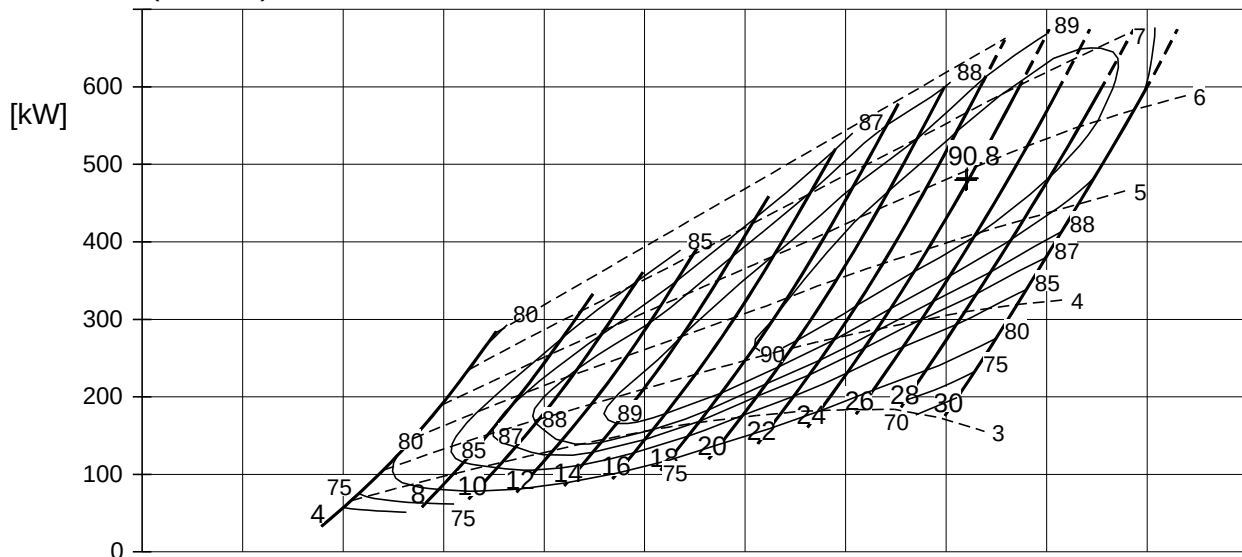
DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
223 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
835	54-52-6AA	6	250 kW	350-12	1: 4.500	96.6% - 95.9%
905	66-46-6AA	6	310	350-12	1: 4.500	97.0% - 96.4%
865	54-66-6AA	6	340	350-12	1: 4.500	97.1% - 96.6%
905	66-56-6AA	6	380	350-22	1: 4.500	97.3% - 96.9%
935	66-66-6AA	6	500	360-22	1: 4.500	97.6% - 97.3%
935	66-76-6AA	6	600	360-22	1: 4.500	97.7% - 97.5%

POWER (SHAFT)

ISO-CURVES : (---) HEAD(m)

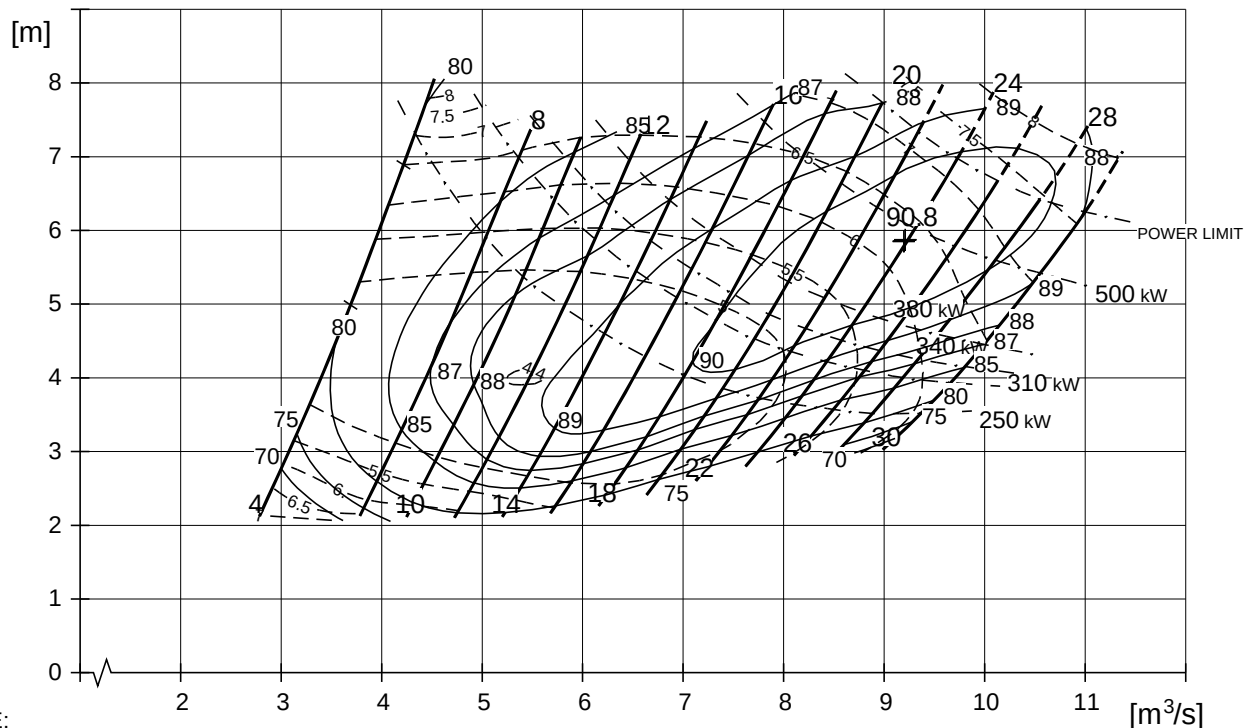
8



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

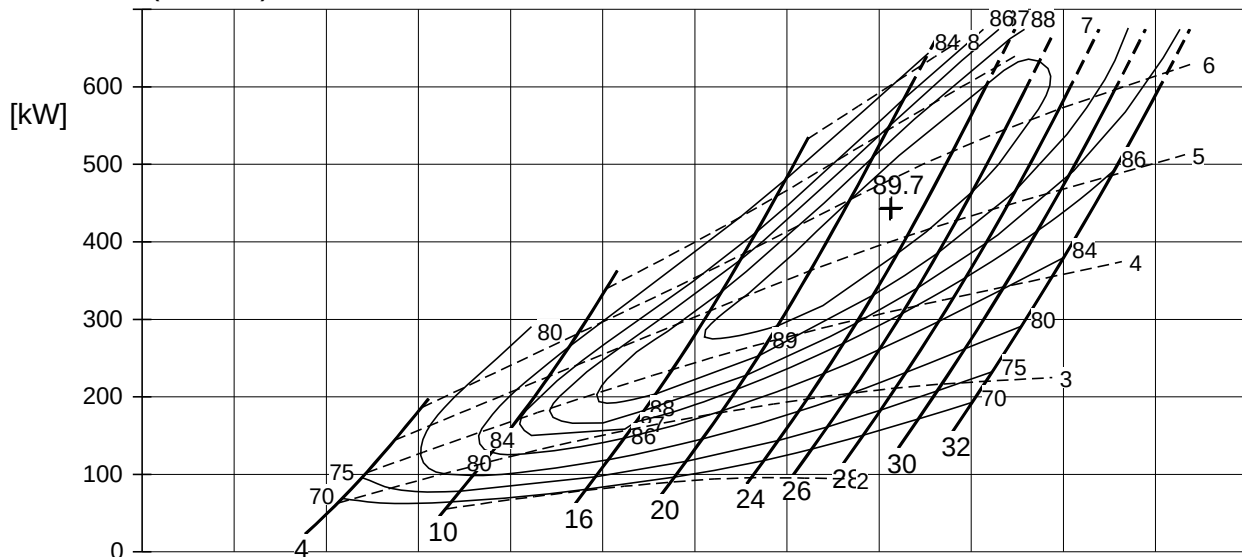
53- 223C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
223 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
835	54-52-6AA	6	250 kW	350-12	1: 4.500	96.6% - 95.9%
905	66-46-6AA	6	310	350-12	1: 4.500	97.0% - 96.4%
865	54-66-6AA	6	340	350-12	1: 4.500	97.1% - 96.6%
905	66-56-6AA	6	380	350-22	1: 4.500	97.3% - 96.9%
935	66-66-6AA	6	500	360-22	1: 4.500	97.6% - 97.3%
935	66-76-6AA	6	600	360-22	1: 4.500	97.7% - 97.5%

POWER (SHAFT)

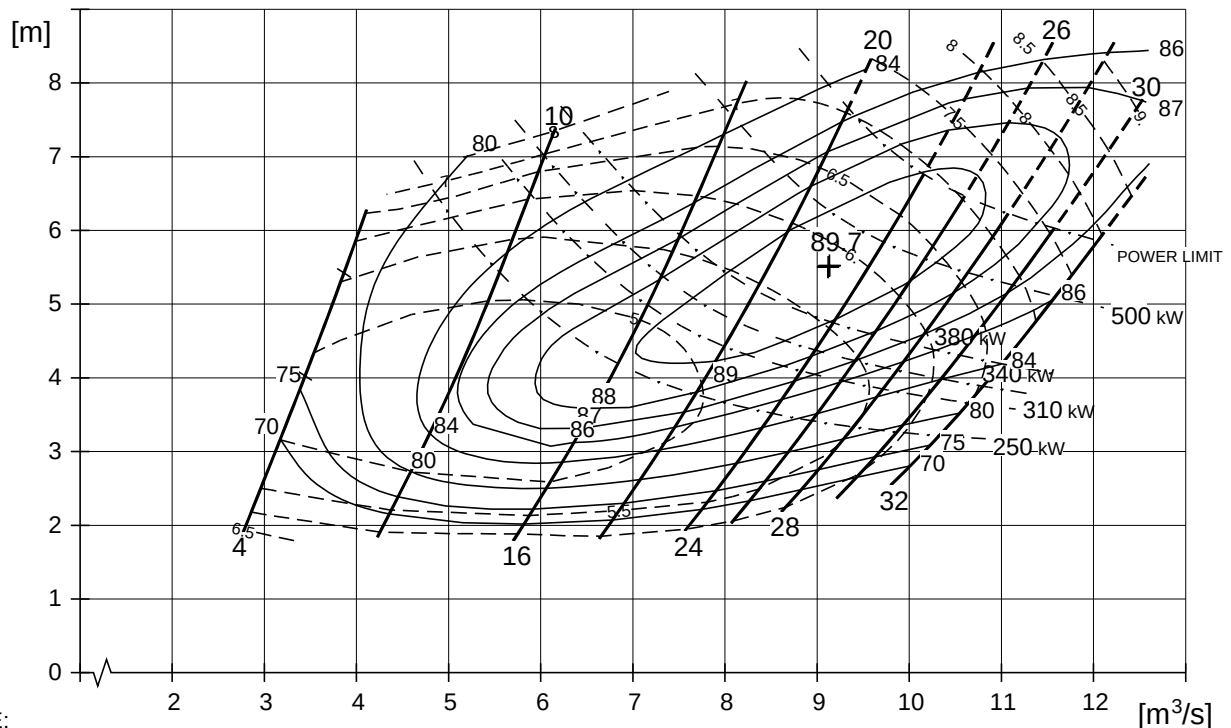
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.
ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

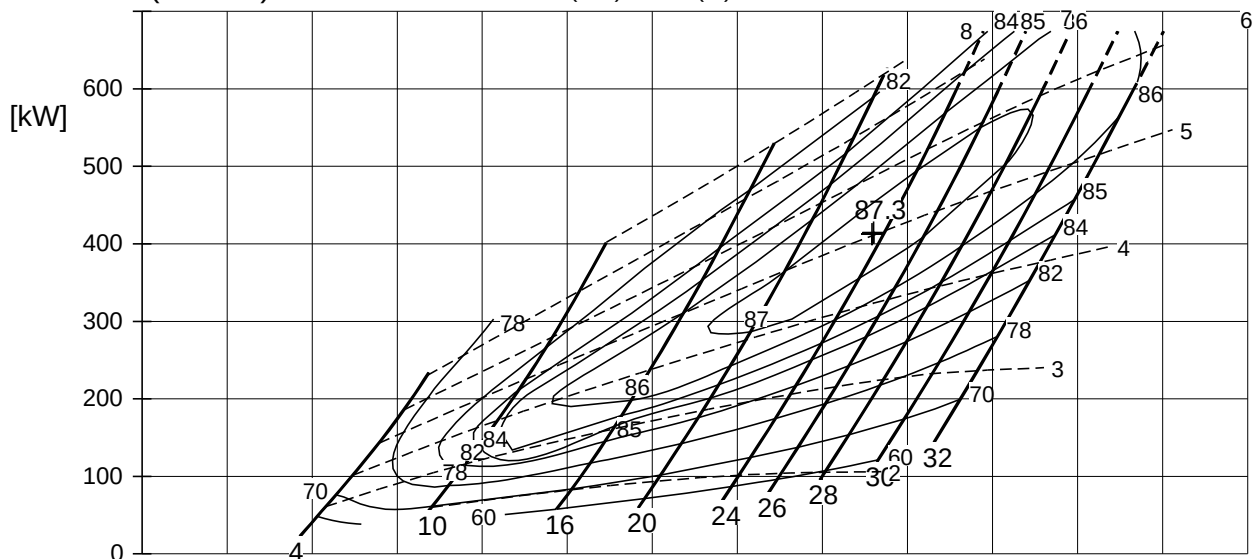
53- 223C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
223 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
77 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
835	54-52-6AA	6	250 kW	350-12	1: 4.500	96.6% - 95.9%
905	66-46-6AA	6	310	350-12	1: 4.500	97.0% - 96.4%
865	54-66-6AA	6	340	350-12	1: 4.500	97.1% - 96.6%
905	66-56-6AA	6	380	350-22	1: 4.500	97.3% - 96.9%
935	66-66-6AA	6	500	360-22	1: 4.500	97.6% - 97.3%
935	66-76-6AA	6	600	360-22	1: 4.500	97.7% - 97.5%

POWER (SHAFT)

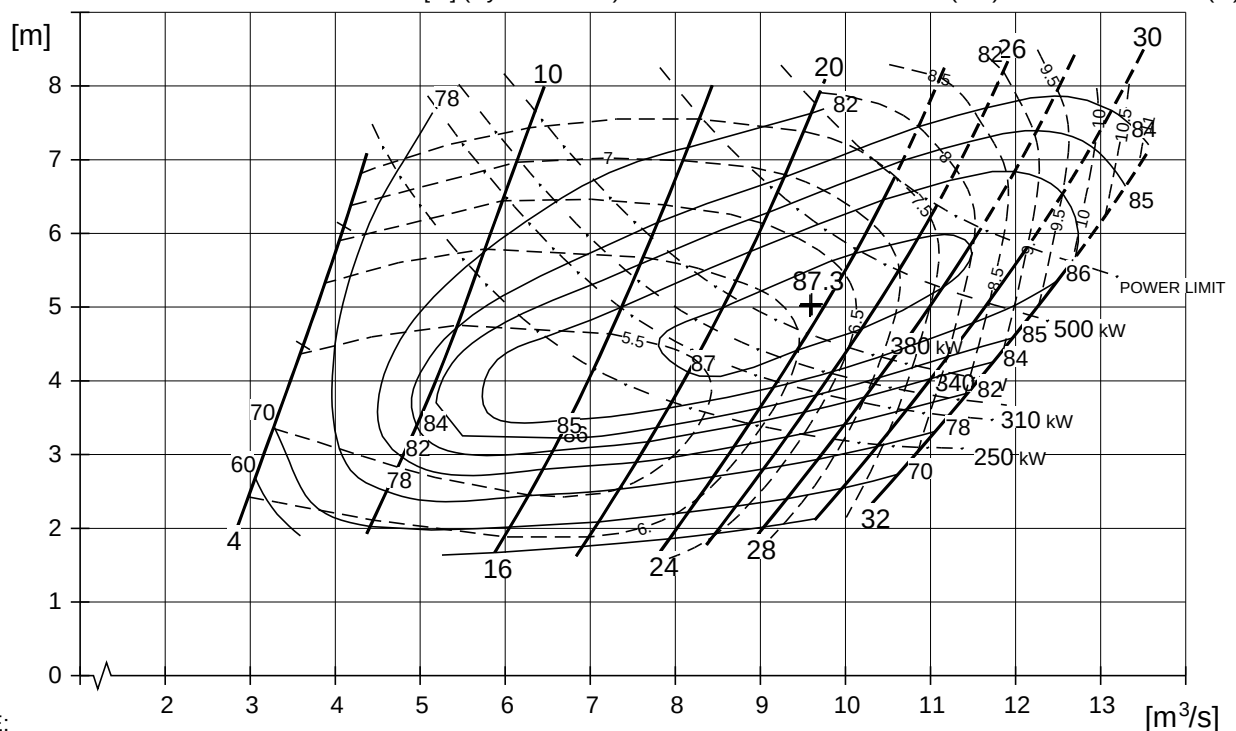
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

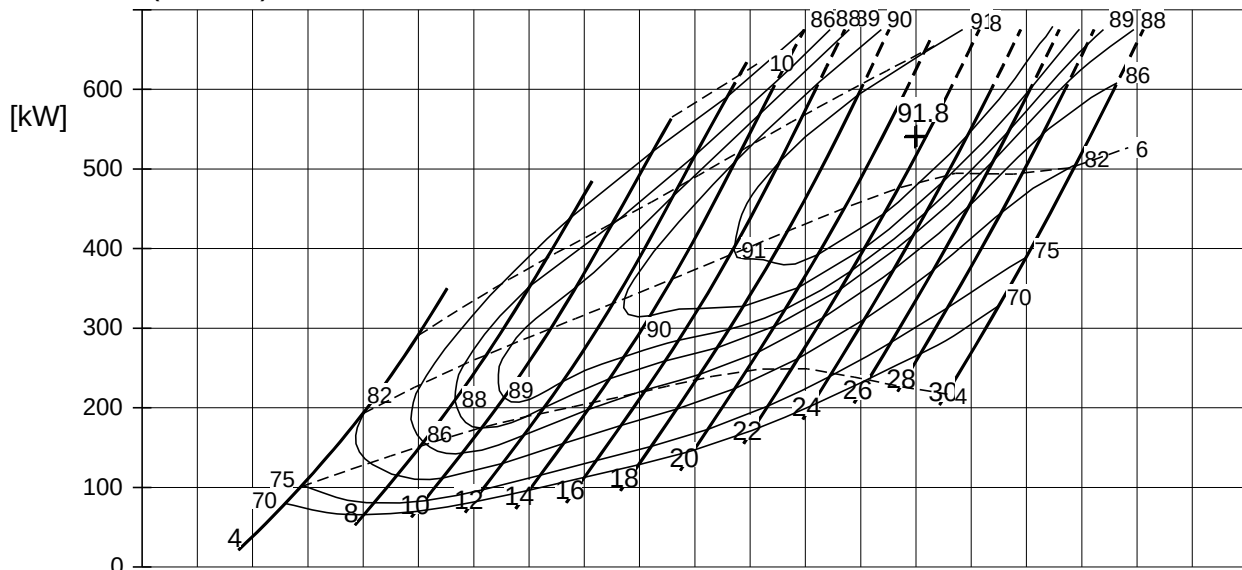
53- 249C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
249 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-6AA	6	310 kW	350-12	1: 4.034	96.8% - 96.2%
865	54-66-6AA	6	340	350-12	1: 4.034	97.0% - 96.4%
905	66-56-6AA	6	400	350-22	1: 4.034	97.2% - 96.8%
935	66-66-6AA	6	470	350-22	1: 4.034	97.4% - 97.0%
935	66-76-6AA	6	600	360-22	1: 4.034	97.6% - 97.3%

POWER (SHAFT)

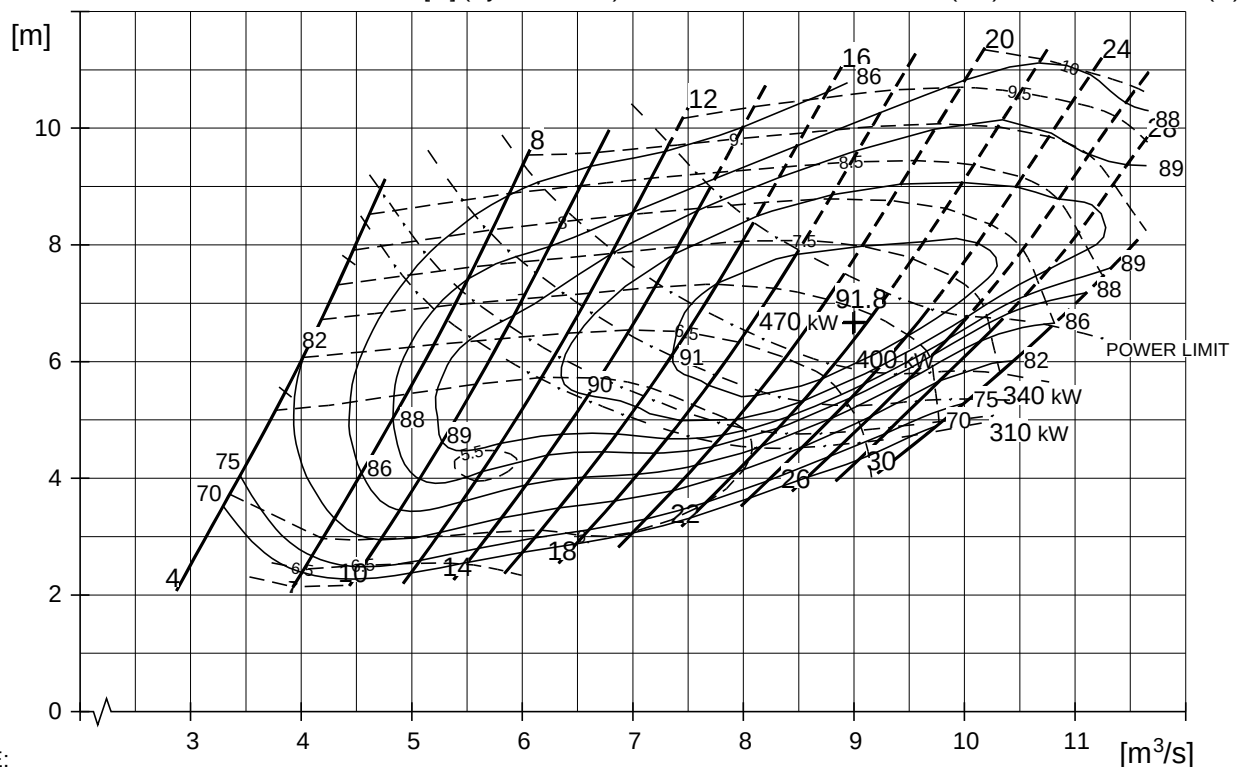
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

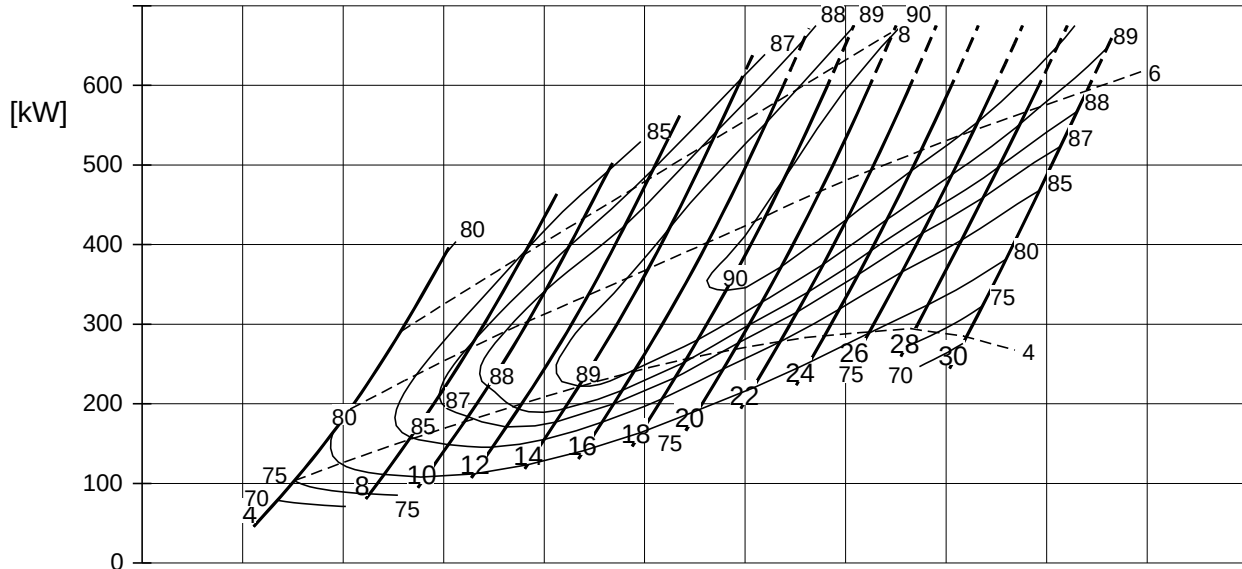
53- 249C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
249 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-6AA	6	310 kW	350-12	1: 4.034	96.8% - 96.2%
865	54-66-6AA	6	340	350-12	1: 4.034	97.0% - 96.4%
905	66-56-6AA	6	400	350-22	1: 4.034	97.2% - 96.8%
935	66-66-6AA	6	470	350-22	1: 4.034	97.4% - 97.0%
935	66-76-6AA	6	600	360-22	1: 4.034	97.6% - 97.3%

POWER (SHAFT)

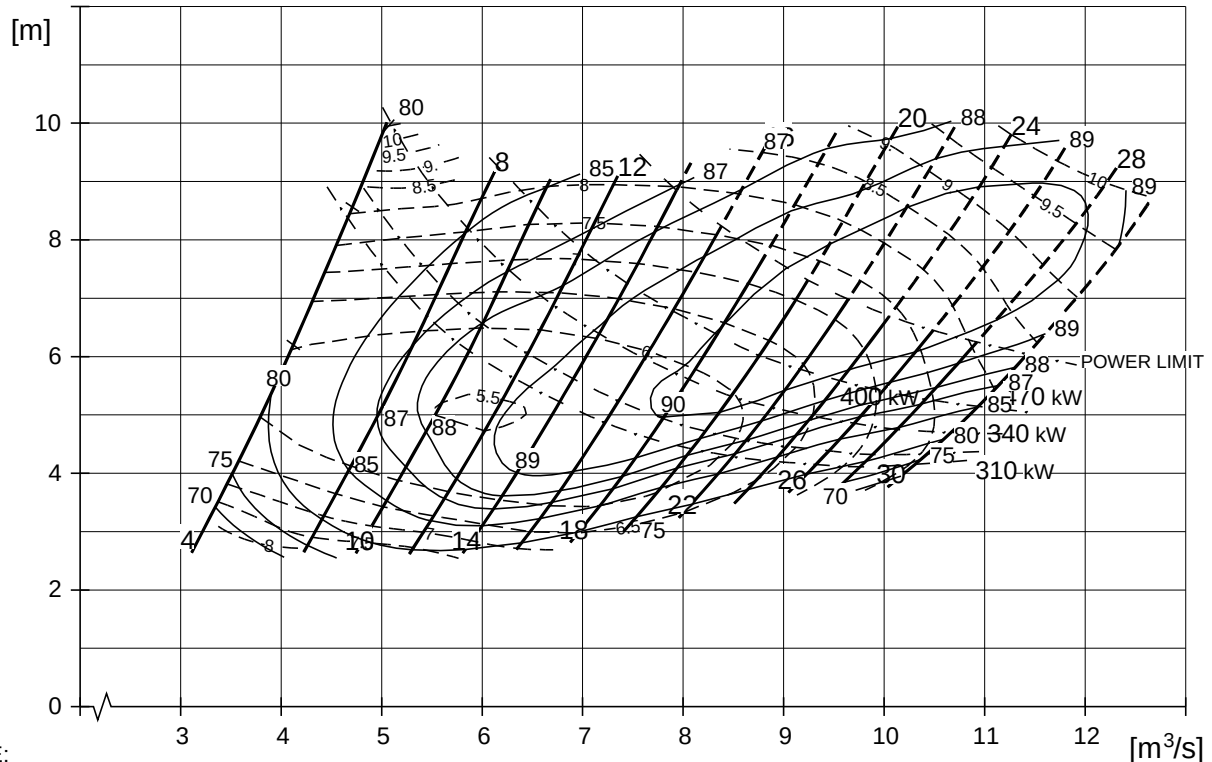
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

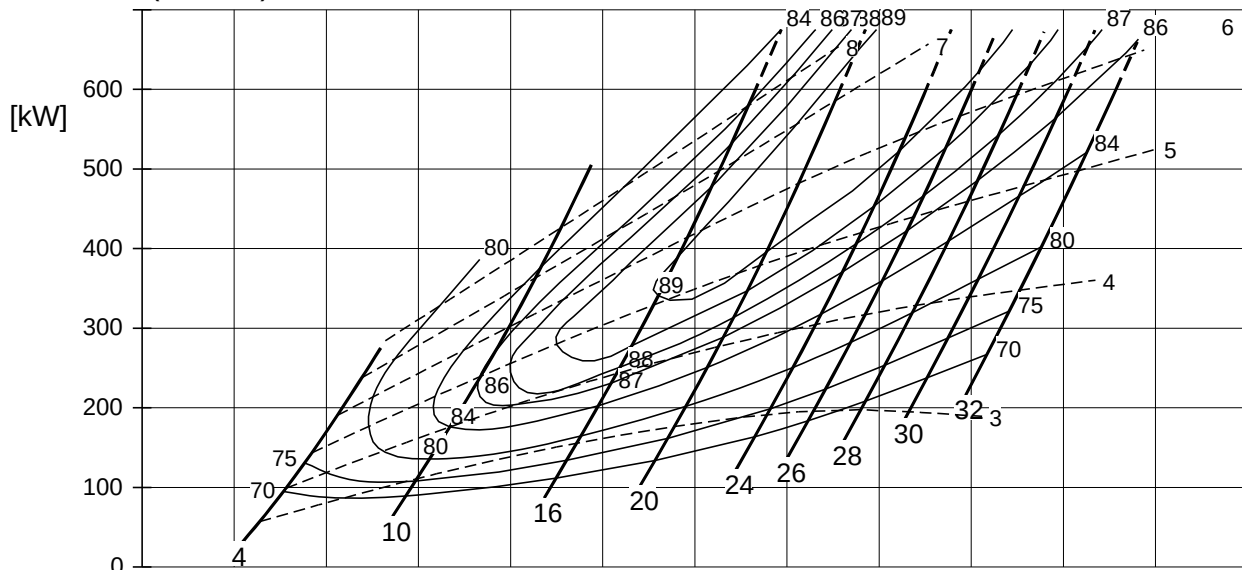
53- 249C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
249 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-6AA	6	310 kW	350-12	1: 4.034	96.8% - 96.2%
865	54-66-6AA	6	340	350-12	1: 4.034	97.0% - 96.4%
905	66-56-6AA	6	400	350-22	1: 4.034	97.2% - 96.8%
935	66-66-6AA	6	470	350-22	1: 4.034	97.4% - 97.0%
935	66-76-6AA	6	600	360-22	1: 4.034	97.6% - 97.3%

POWER (SHAFT)

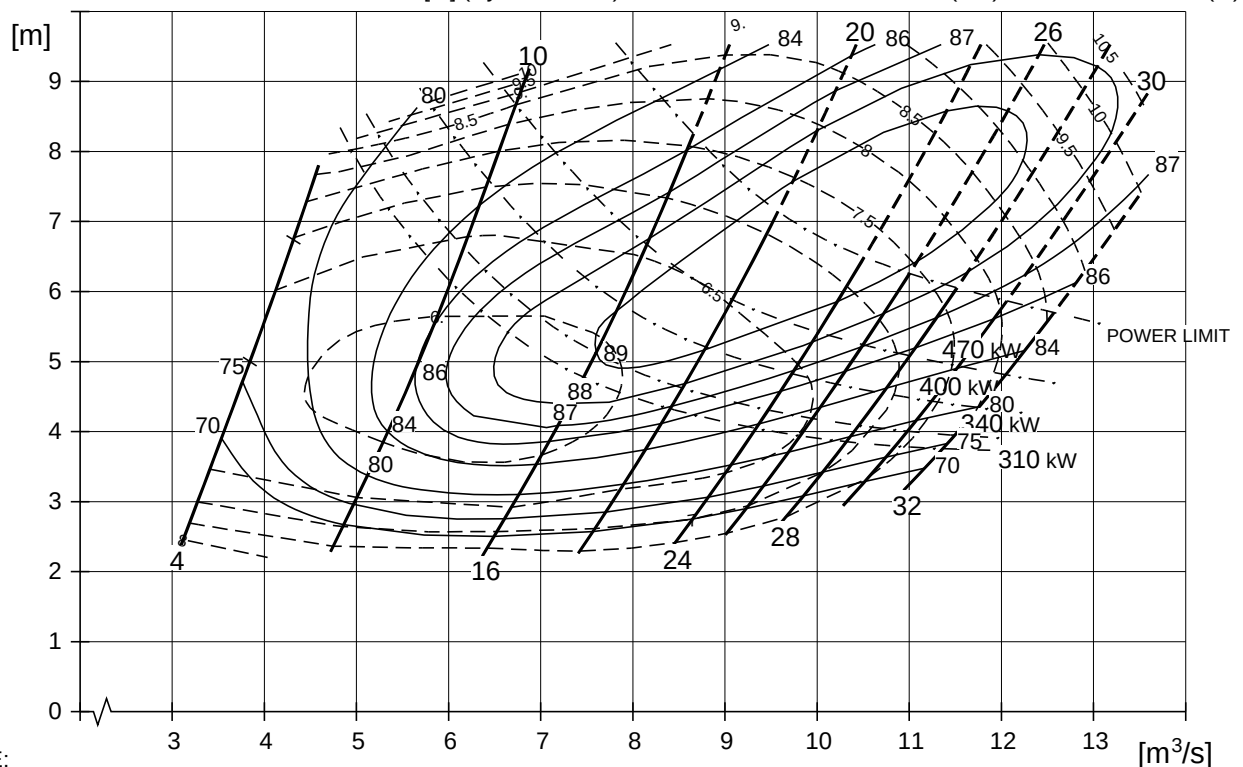
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

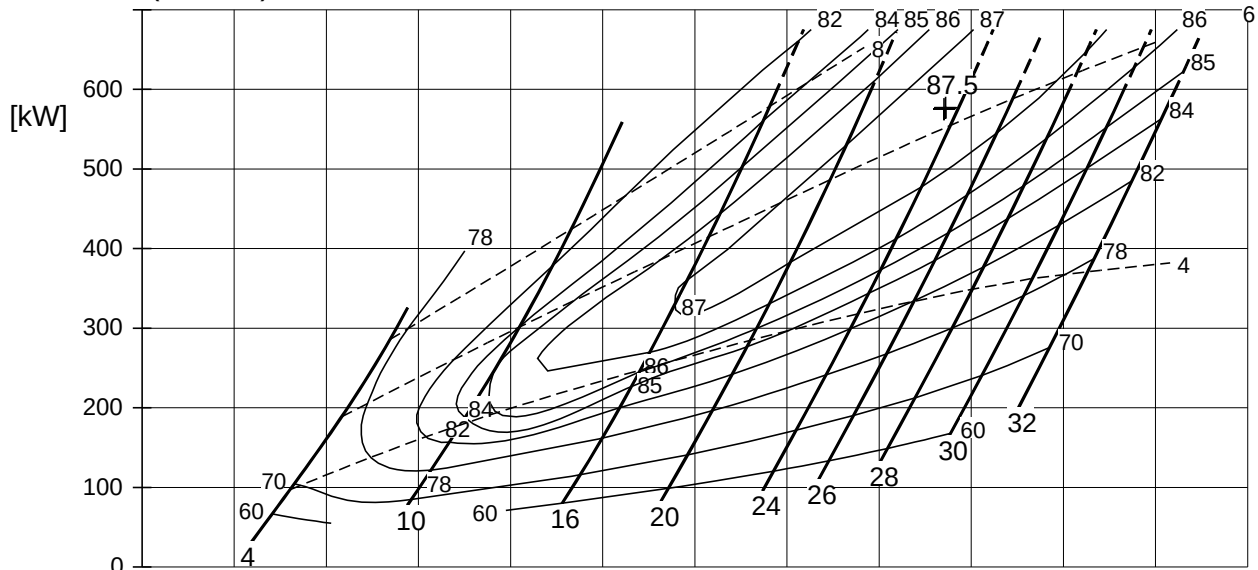
53- 249C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
249 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
77 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-46-6AA	6	310 kW	350-12	1: 4.034	96.8% - 96.2%
865	54-66-6AA	6	340	350-12	1: 4.034	97.0% - 96.4%
905	66-56-6AA	6	400	350-22	1: 4.034	97.2% - 96.8%
935	66-66-6AA	6	470	350-22	1: 4.034	97.4% - 97.0%
935	66-76-6AA	6	600	360-22	1: 4.034	97.6% - 97.3%

POWER (SHAFT)

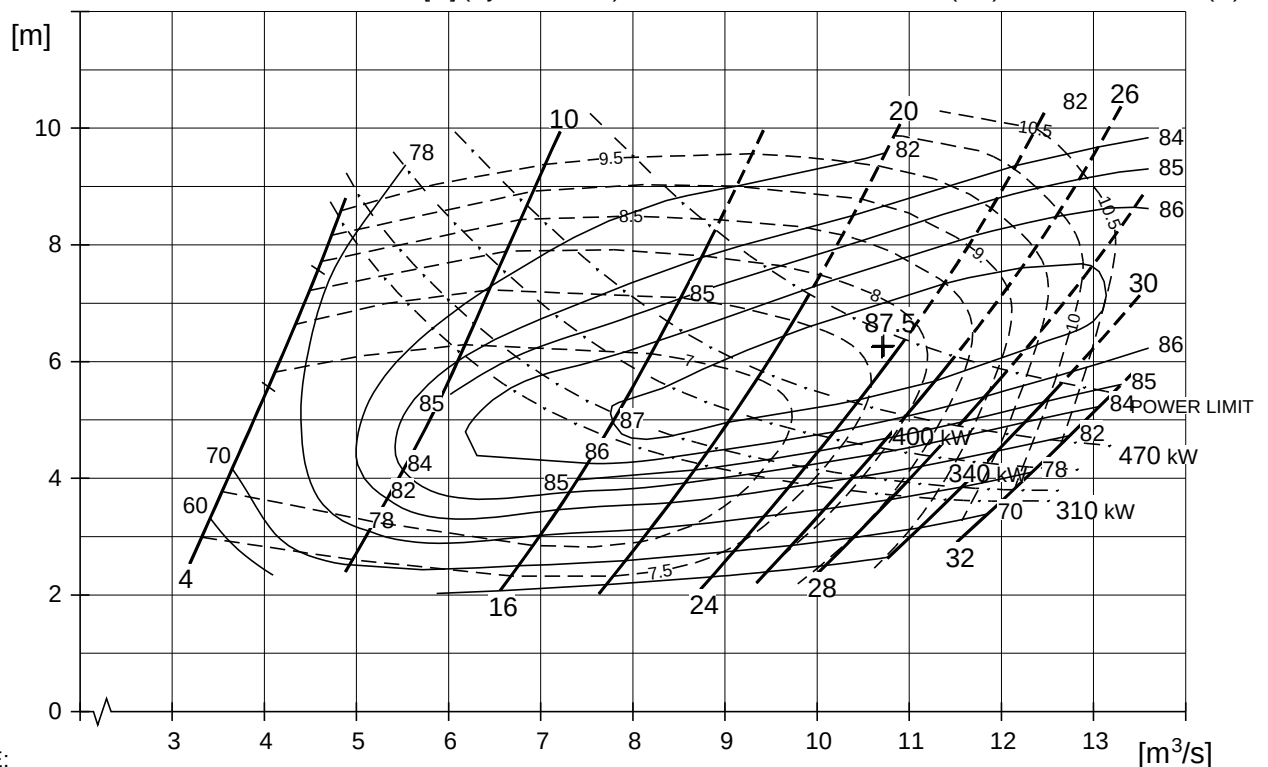
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

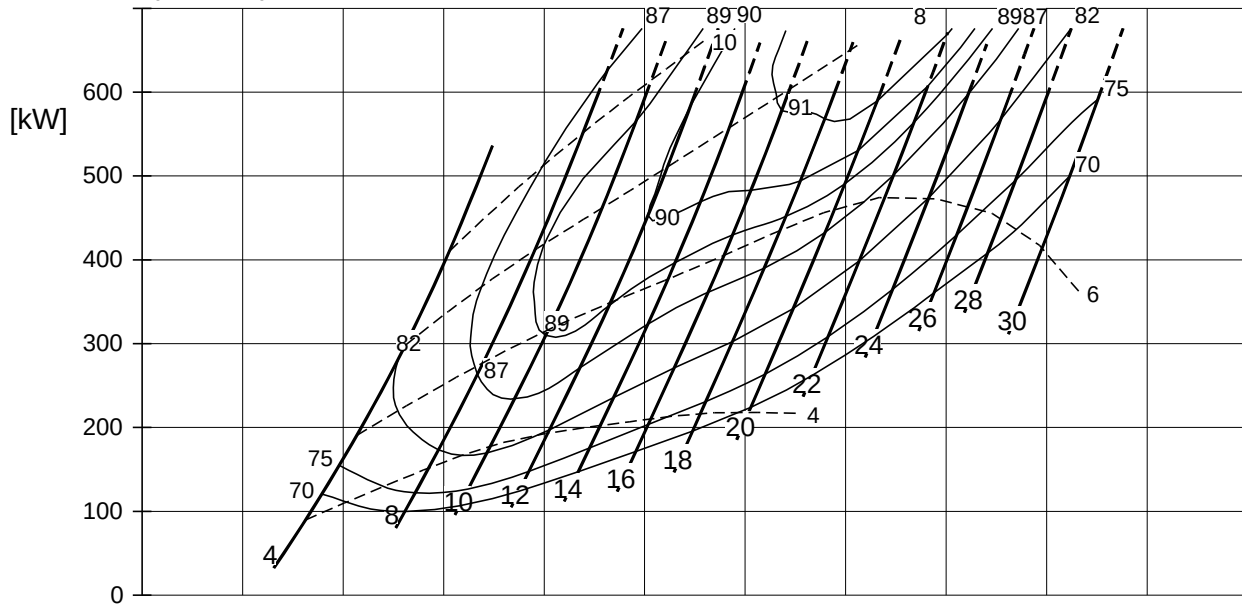
53- 287 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
287 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-56-6AA	6	380 kW	350-12	1: 3.500	96.9% - 96.4%
935	66-66-6AA	6	500	360-22	1: 3.500	97.3% - 96.9%
935	66-76-6AA	6	600	360-22	1: 3.500	97.4% - 97.1%

POWER (SHAFT)

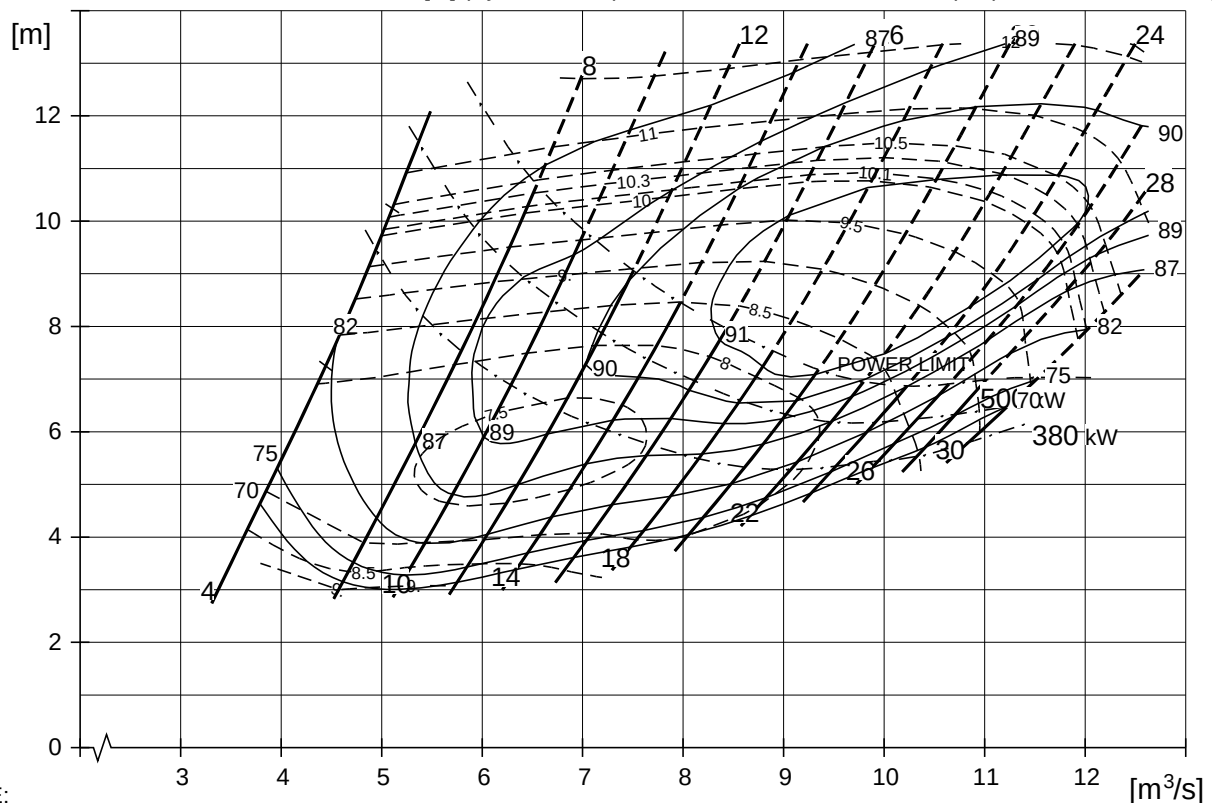
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

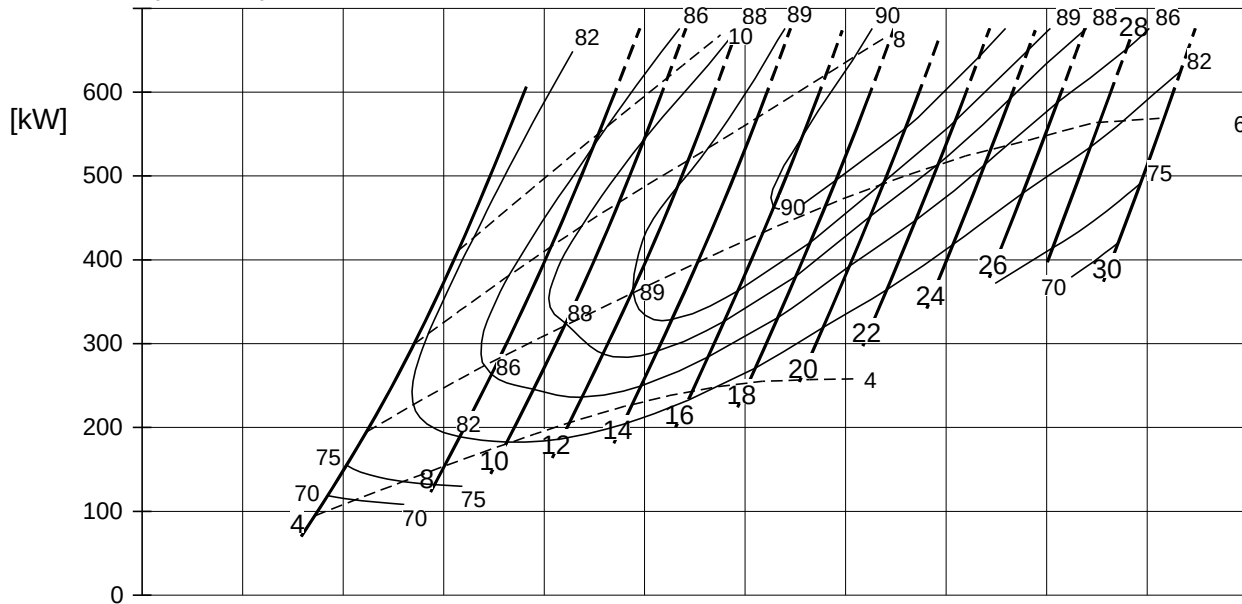
53- 287 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
287 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-56-6AA	6	380 kW	350-12	1: 3.500	96.9% - 96.4%
935	66-66-6AA	6	500	360-22	1: 3.500	97.3% - 96.9%
935	66-76-6AA	6	600	360-22	1: 3.500	97.4% - 97.1%

POWER (SHAFT)

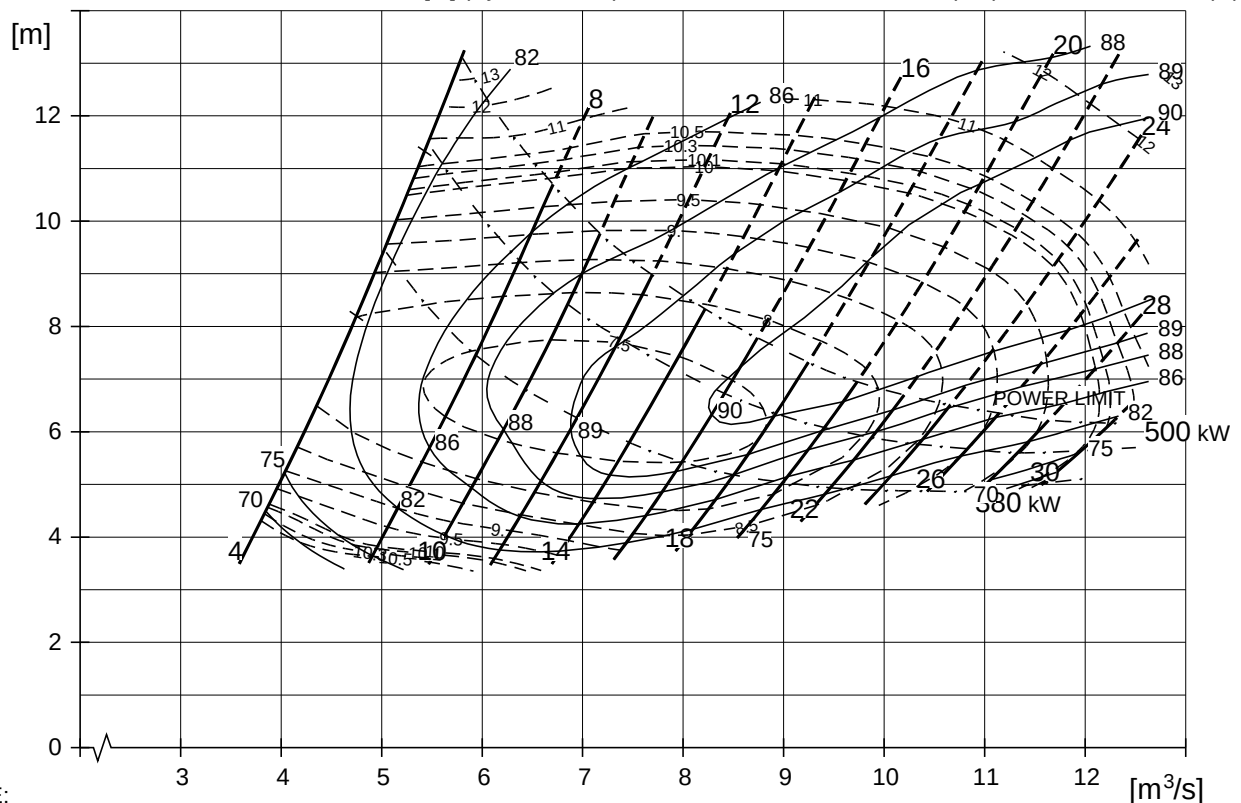
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

53- 287 C4E

DATE
2016-02-17

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
287 RPM

IMPELLER/HUB DIAMETER
1500 / 650 mm

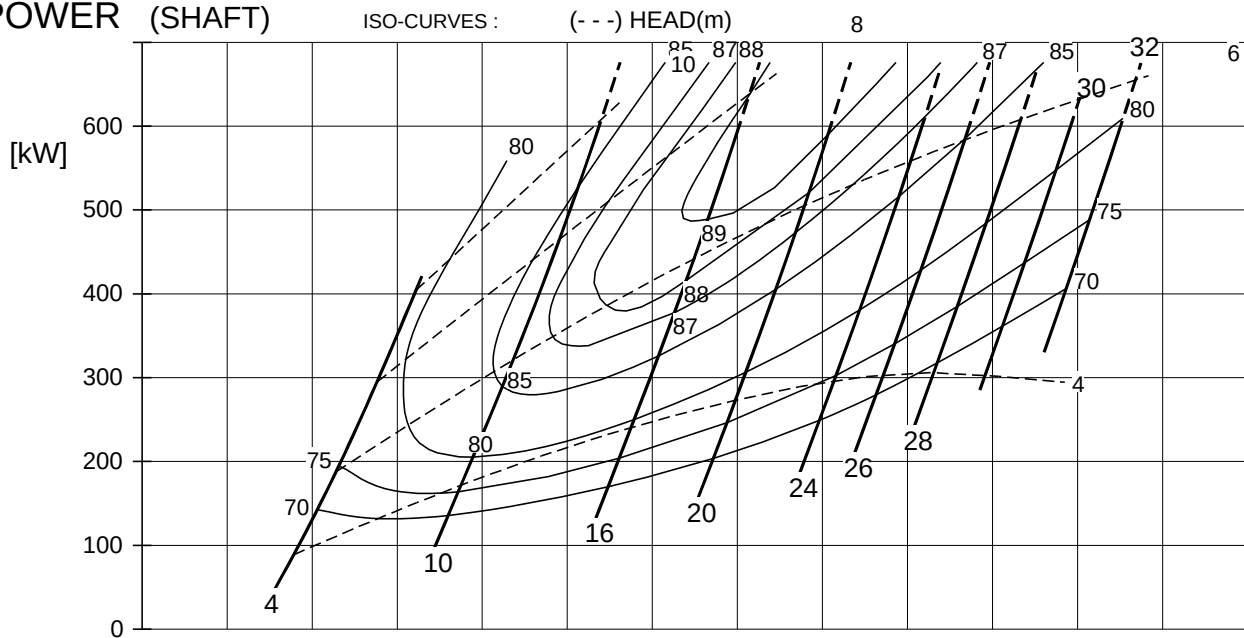
GUIDE VANE(S)
70 deg

NO. OF BLADES
4

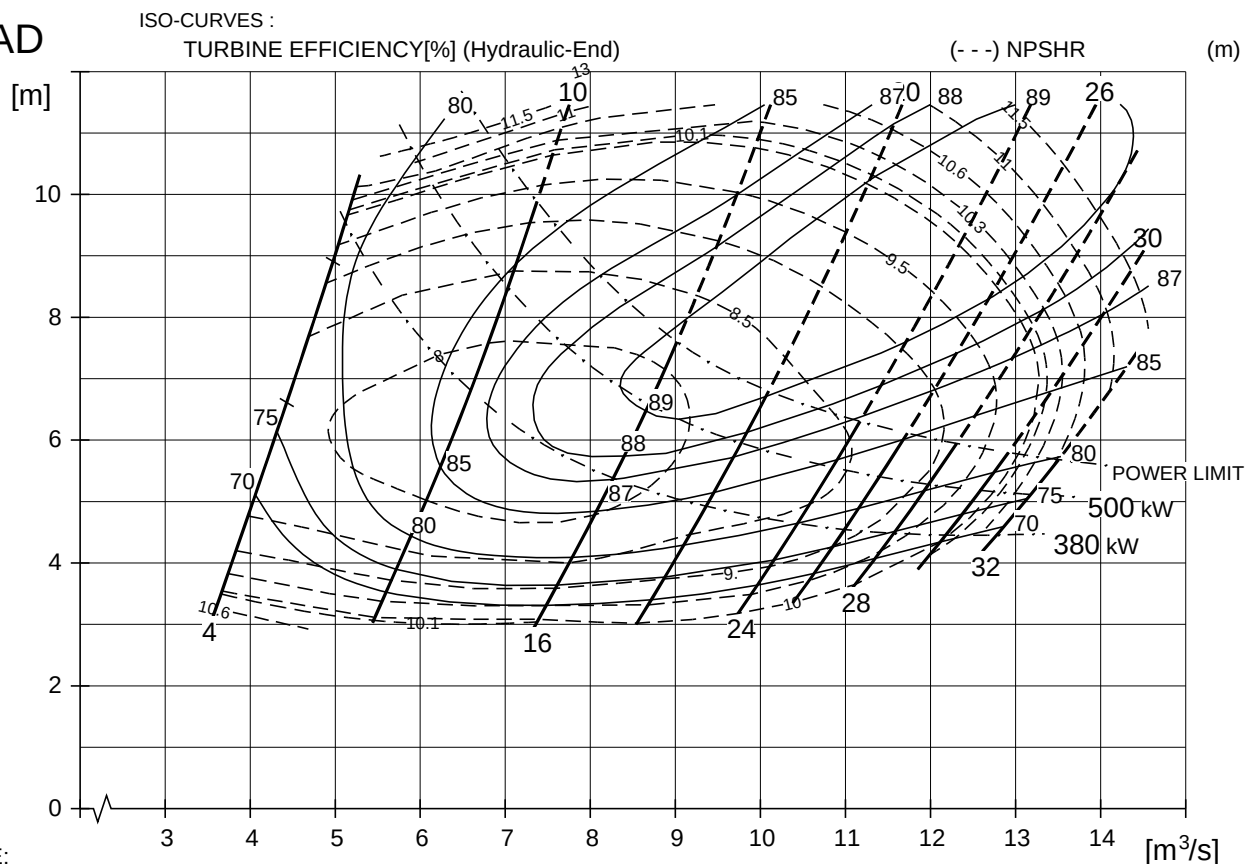
AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-56-6AA	6	380 kW	350-12	1: 3.500	96.9% - 96.4%
935	66-66-6AA	6	500	360-22	1: 3.500	97.3% - 96.9%
935	66-76-6AA	6	600	360-22	1: 3.500	97.4% - 97.1%

POWER (SHAFT)



HEAD



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

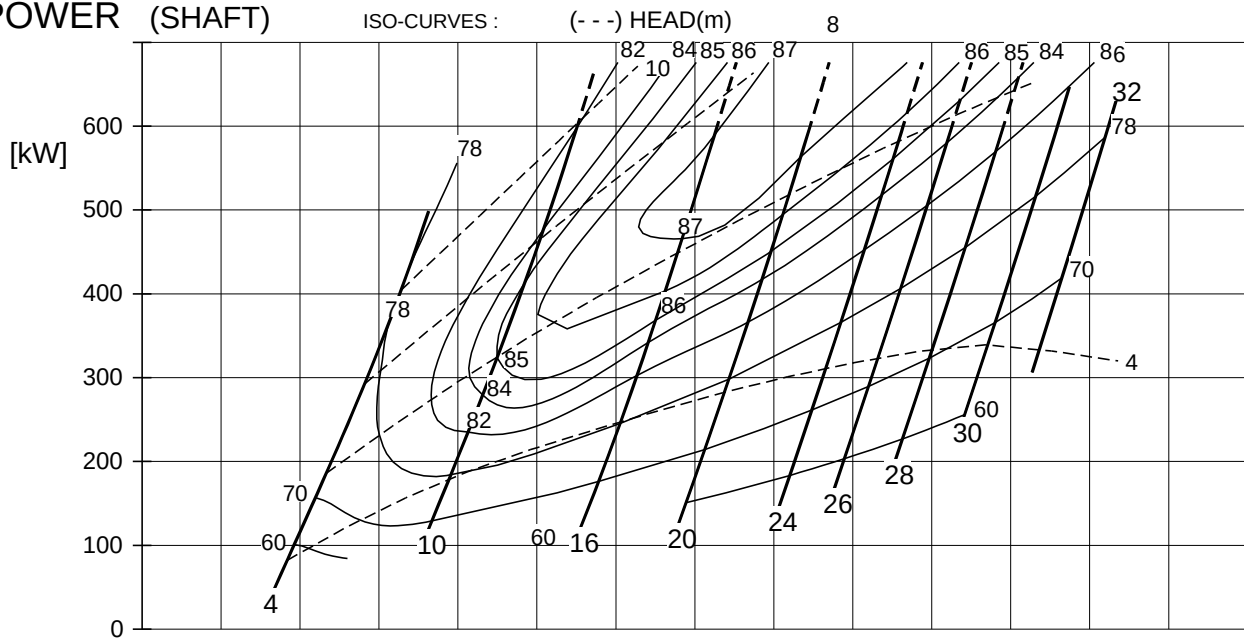
CURVE NO

53- 287 C4E

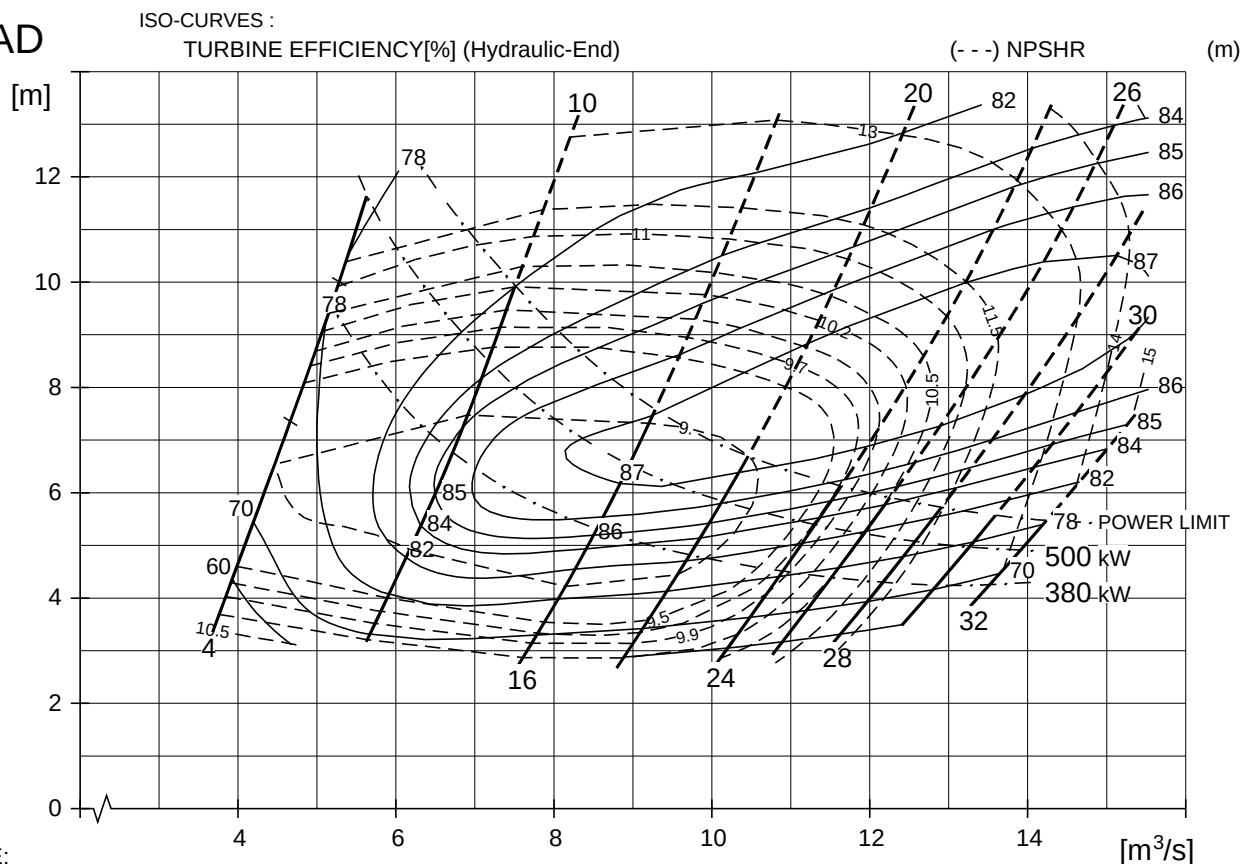
DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
287 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
77 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT	GENERATOR	POLES	GEN. POWER	GEAR TYPE	GEAR RATIO	GEAR EFFICIENCY (Load:1/1-3/4)
905	66-56-6AA	6	380 kW	350-12	1: 3.500	96.9% - 96.4%
935	66-66-6AA	6	500	360-22	1: 3.500	97.3% - 96.9%
935	66-76-6AA	6	600	360-22	1: 3.500	97.4% - 97.1%

POWER (SHAFT)



HEAD



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

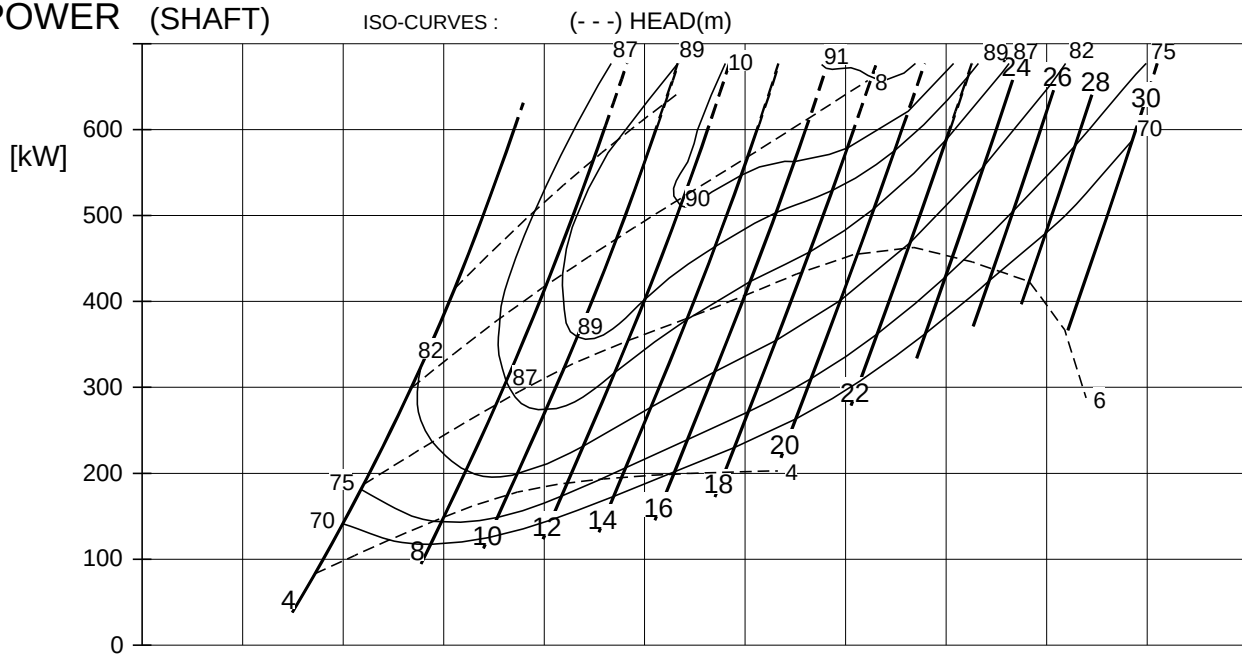
EL 7650

CURVE NO

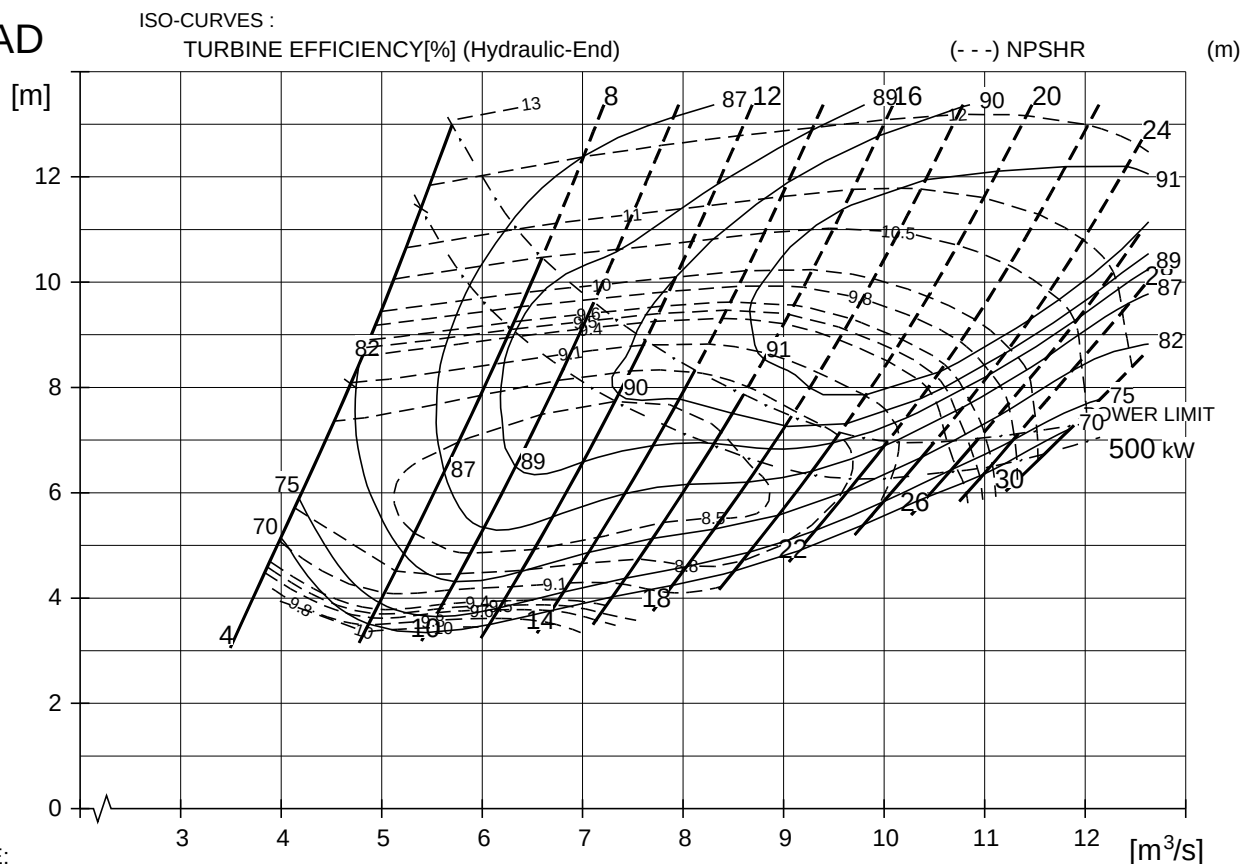
53- 303 C4E

DATE 2016-02-17	ISSUE 4	FREQ. 50 HZ	NOMINAL HYDRAULIC-END SPEED 303 RPM			
IMPELLER/HUB DIAMETER 1500 / 650 mm	GUIDE VANE(S) 57 deg		NO. OF BLADES 4	AVAILABLE BLADE ANGLES EVERY deg FROM 4 TO 30 deg		
DRIVE UNIT 935	GENERATOR 66-66-6AA	POLES 6	GEN. POWER 500 kW	GEAR TYPE 350-22	GEAR RATIO 1: 3.333	GEAR EFFICIENCY (Load:1/1-3/4) 97.2% - 96.8%
935	66-76-6AA	6	600	360-22	1: 3.321	98.1% - 98.0%

POWER (SHAFT)



HEAD



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

53- 303 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
303 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
935GENERATOR
66-66-6AAPOLES
6GEN. POWER
500 kWGEAR TYPE
350-22GEAR RATIO
1: 3.333GEAR EFFICIENCY (Load:1/1-3/4)
97.2% - 96.8%

935

66-76-6AA

6

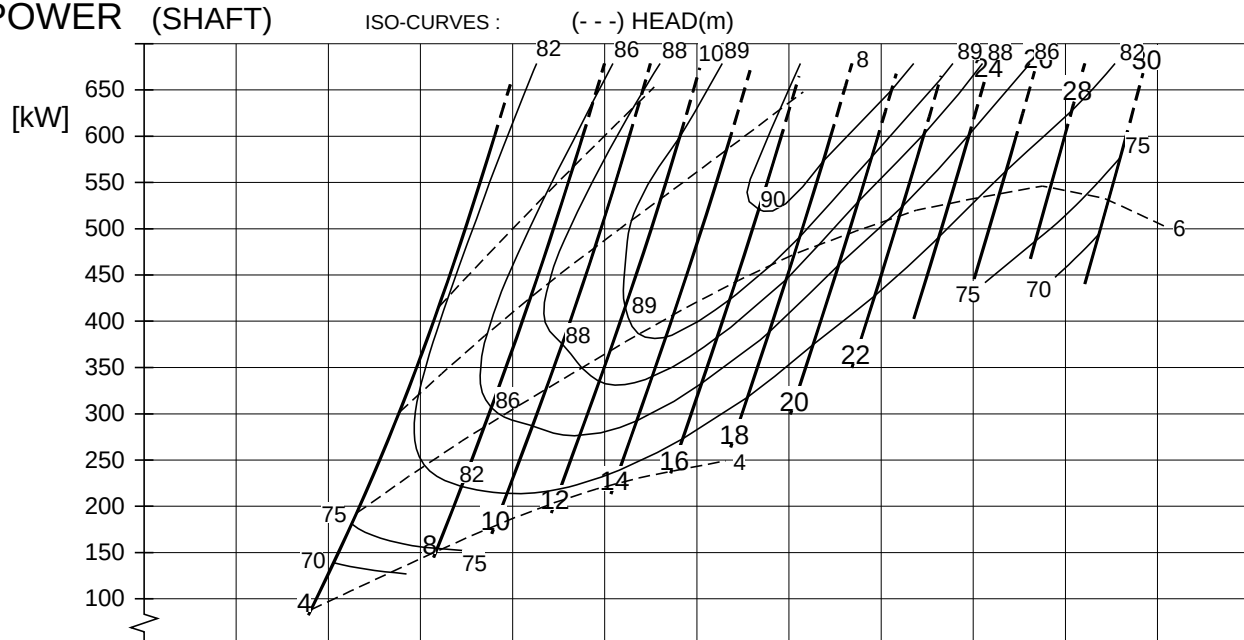
600

360-22

1: 3.321

98.1% - 98.0%

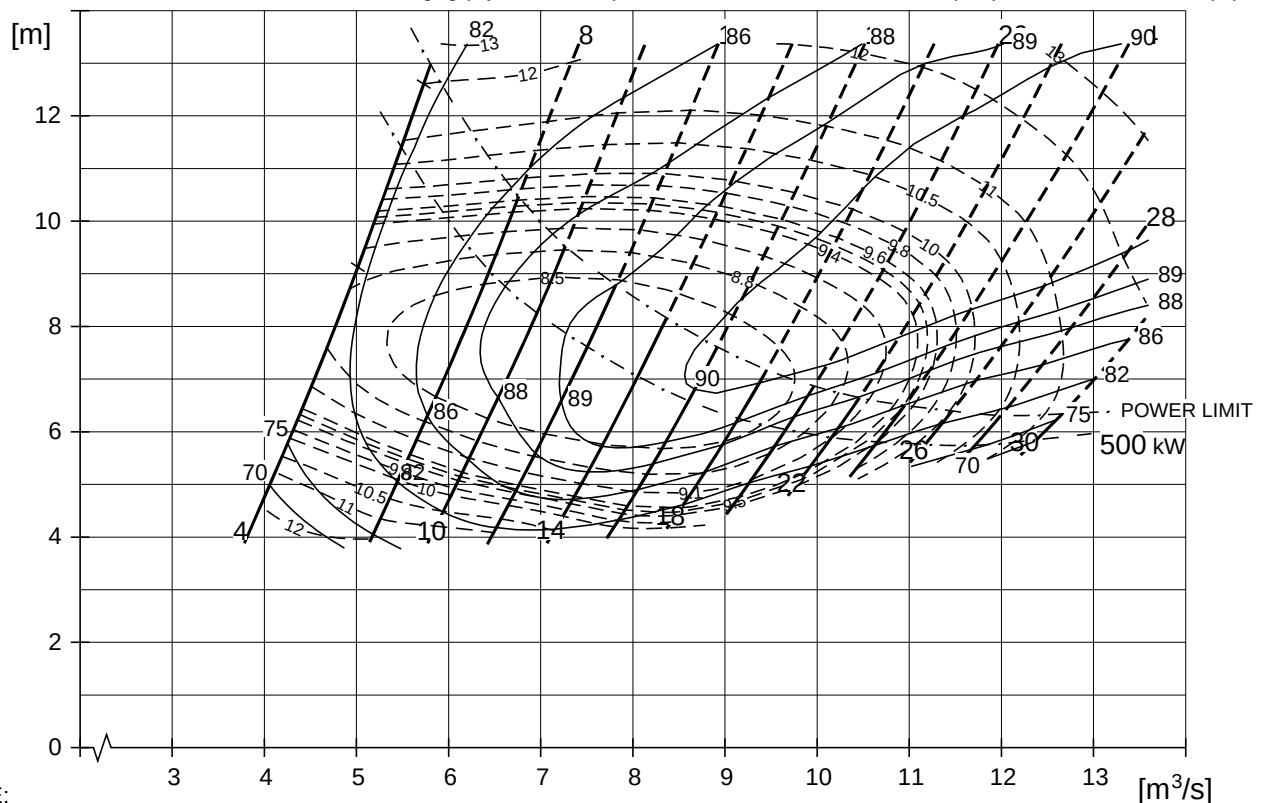
POWER (SHAFT)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

53- 303 C4E

DATE
2016-02-17

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
303 RPM

IMPELLER/HUB DIAMETER
1500 / 650 mm

GUIDE VANE(S)
70 deg

NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT
935

GENERATOR
66-66-6AA

POLES
6

GEN. POWER
500 kW

GEAR TYPE
350-22

GEAR RATIO
1: 3.333

GEAR EFFICIENCY (Load:1/1-3/4)
97.2% - 96.8%

935

66-76-6AA

6

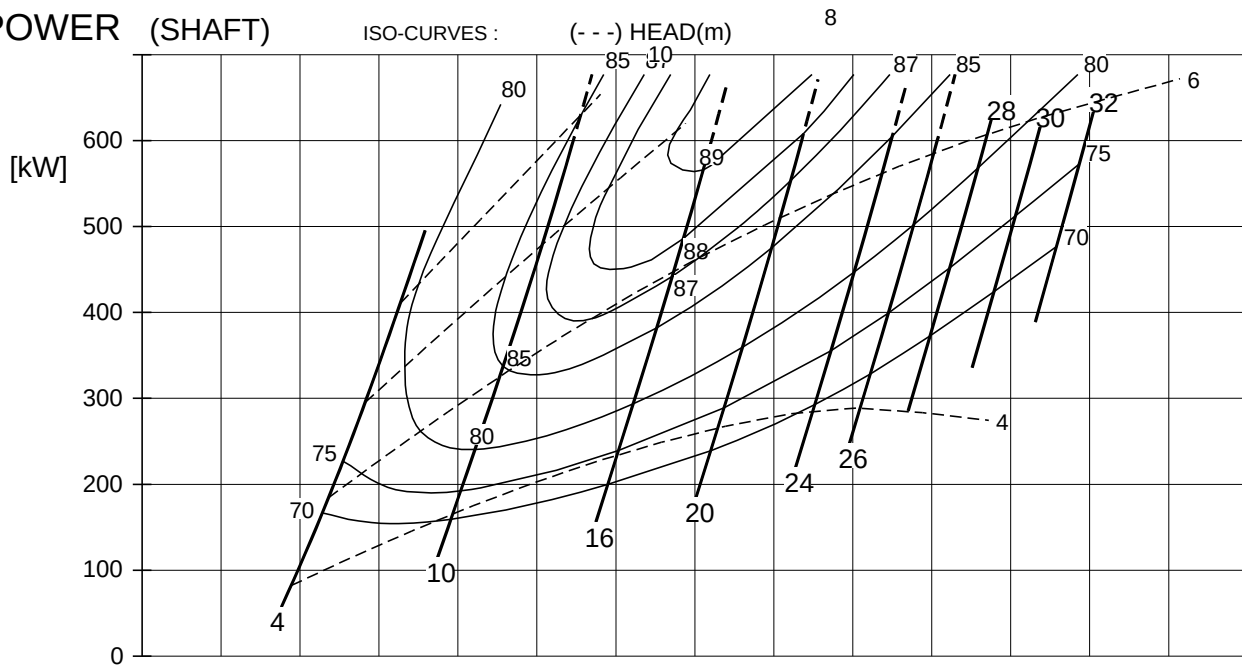
600

360-22

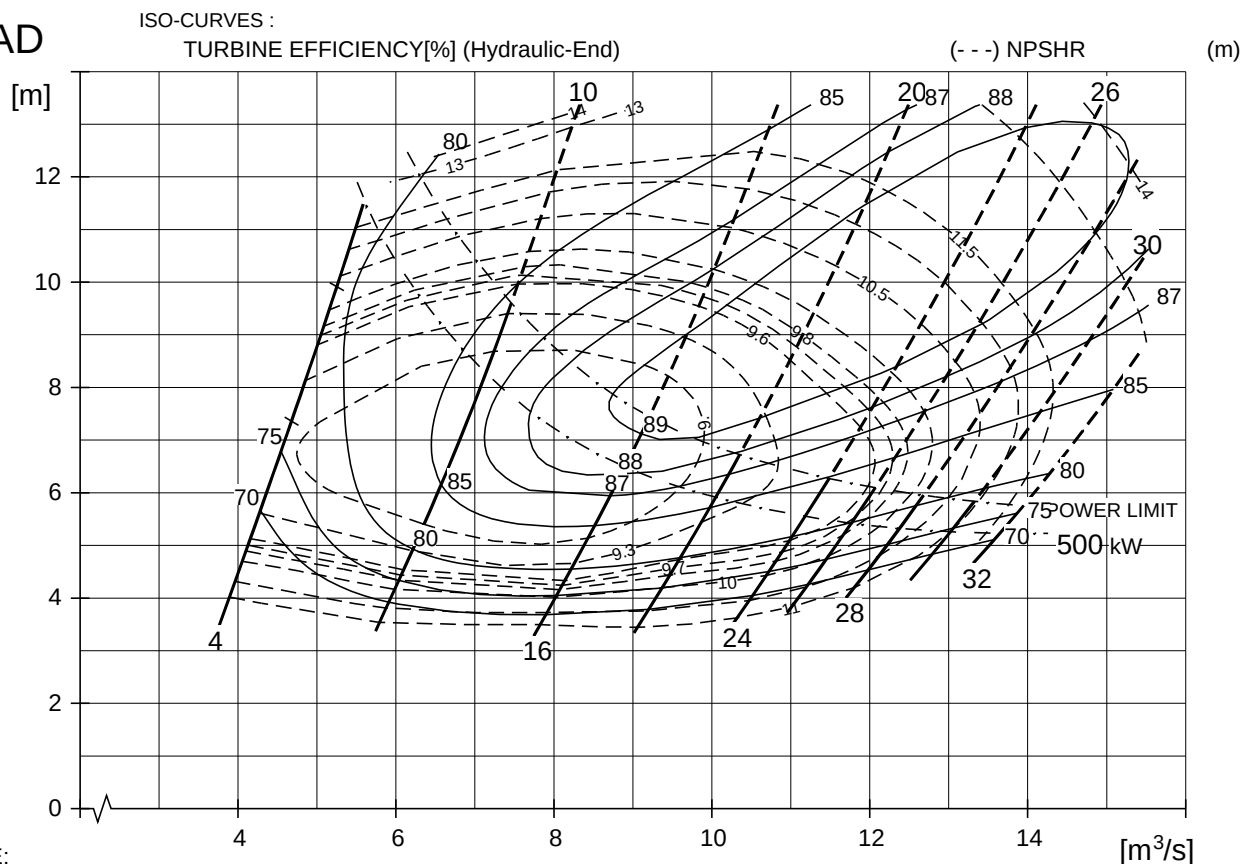
1: 3.321

98.1% - 98.0%

POWER (SHAFT)



HEAD



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

53- 303 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
303 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
77 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 degDRIVE UNIT
935GENERATOR
66-66-6AAPOLES
6GEN. POWER
500 kWGEAR TYPE
350-22GEAR RATIO
1: 3.333GEAR EFFICIENCY (Load:1/1-3/4)
97.2% - 96.8%

935

66-76-6AA

6

600

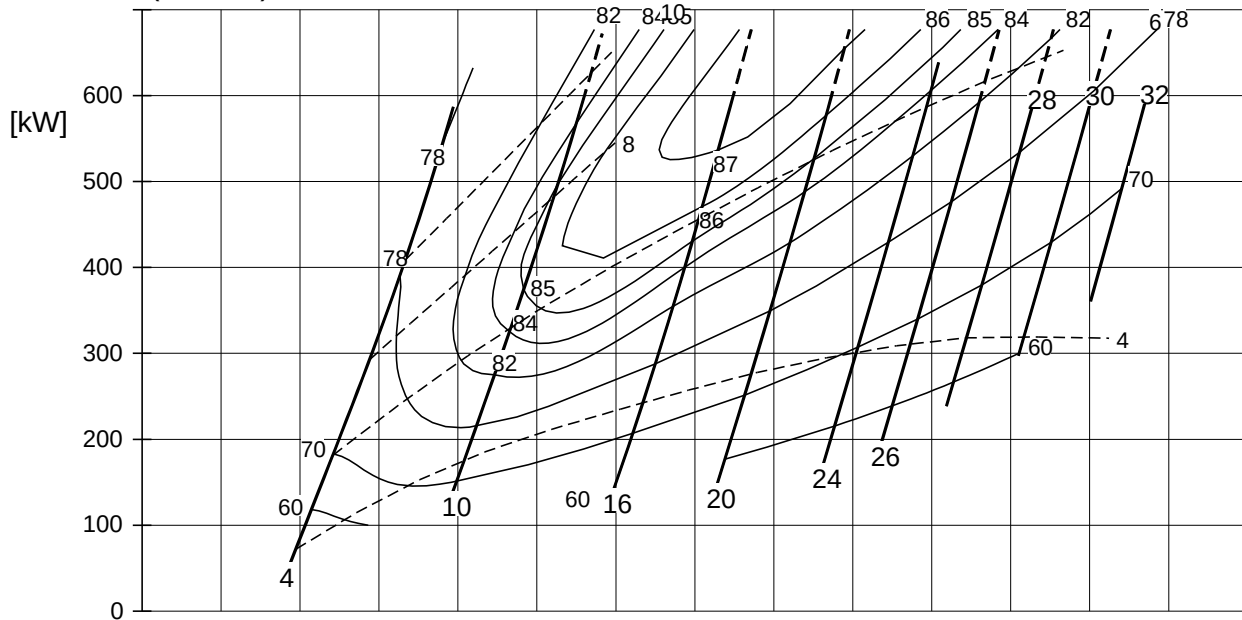
360-22

1: 3.321

98.1% - 98.0%

POWER (SHAFT)

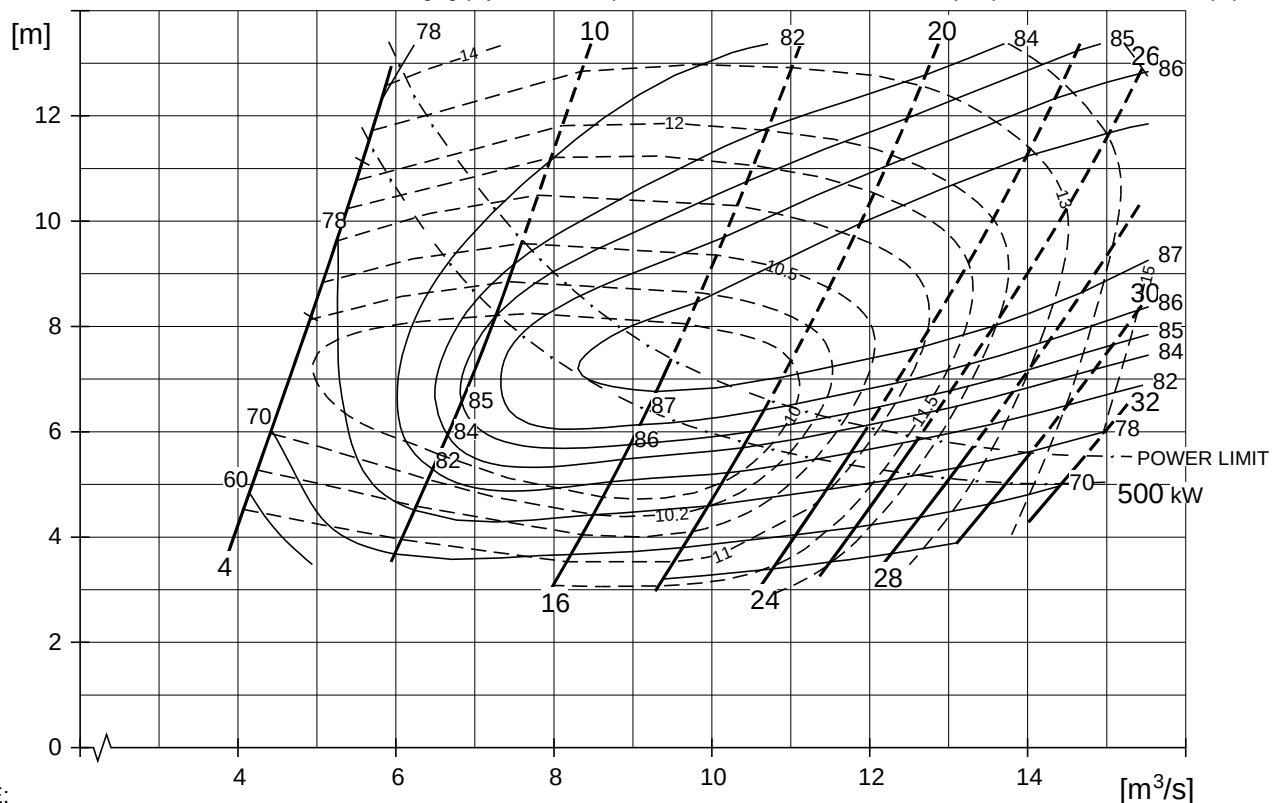
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

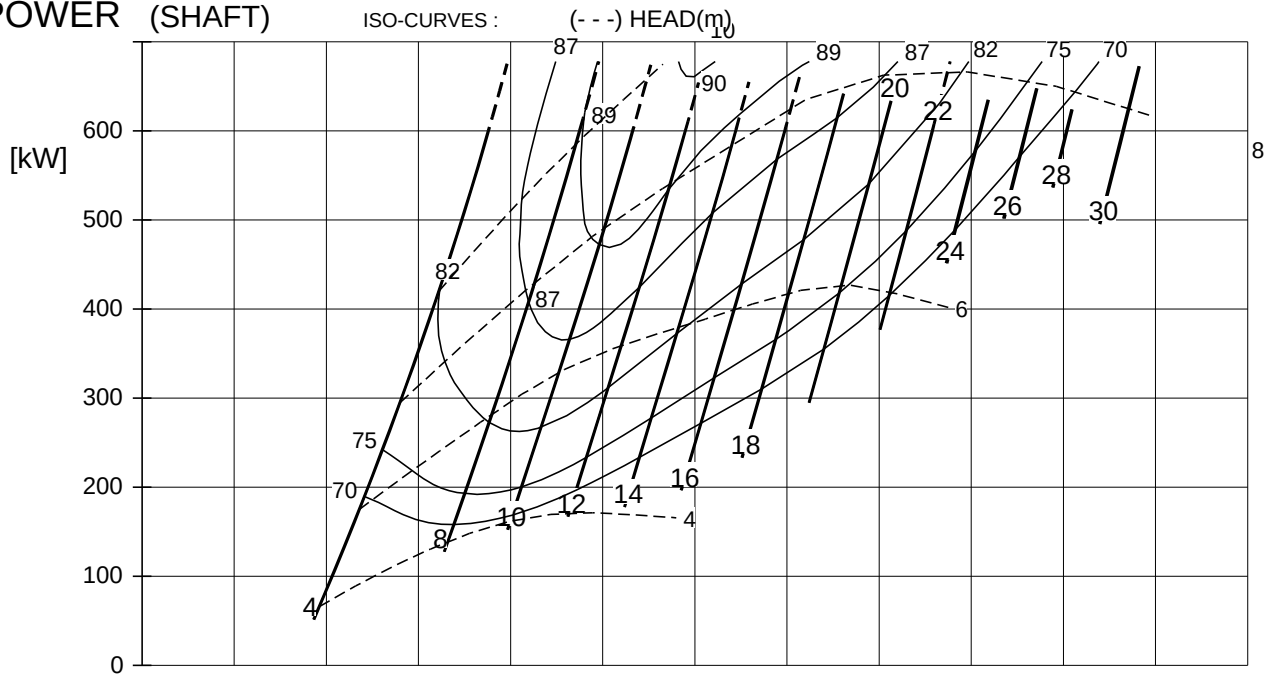
EL 7650

CURVE NO

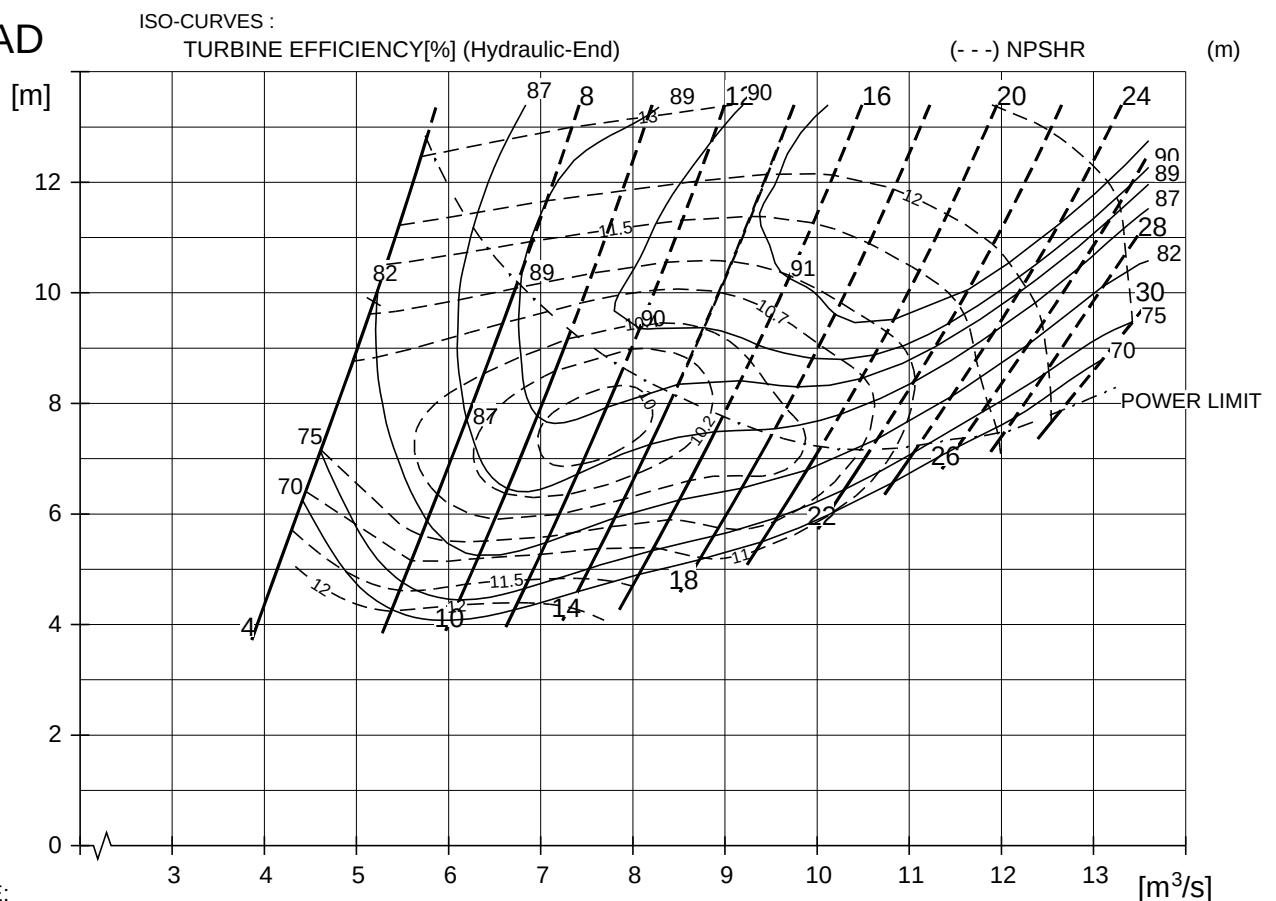
53- 335 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
335 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
935GENERATOR
66-76-6AAPOLES
6GEN. POWER
600 kWGEAR TYPE
360-22GEAR RATIO
1: 3.000GEAR EFFICIENCY (Load:1/1-3/4)
97.2% - 96.9%

POWER (SHAFT)



HEAD



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

53- 335 C4E

DATE
2016-02-17

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
335 RPM

IMPELLER/HUB DIAMETER
1500 / 650 mm

GUIDE VANE(S)
63 deg

NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 deg

DRIVE UNIT
935

GENERATOR
66-76-6AA

POLES
6

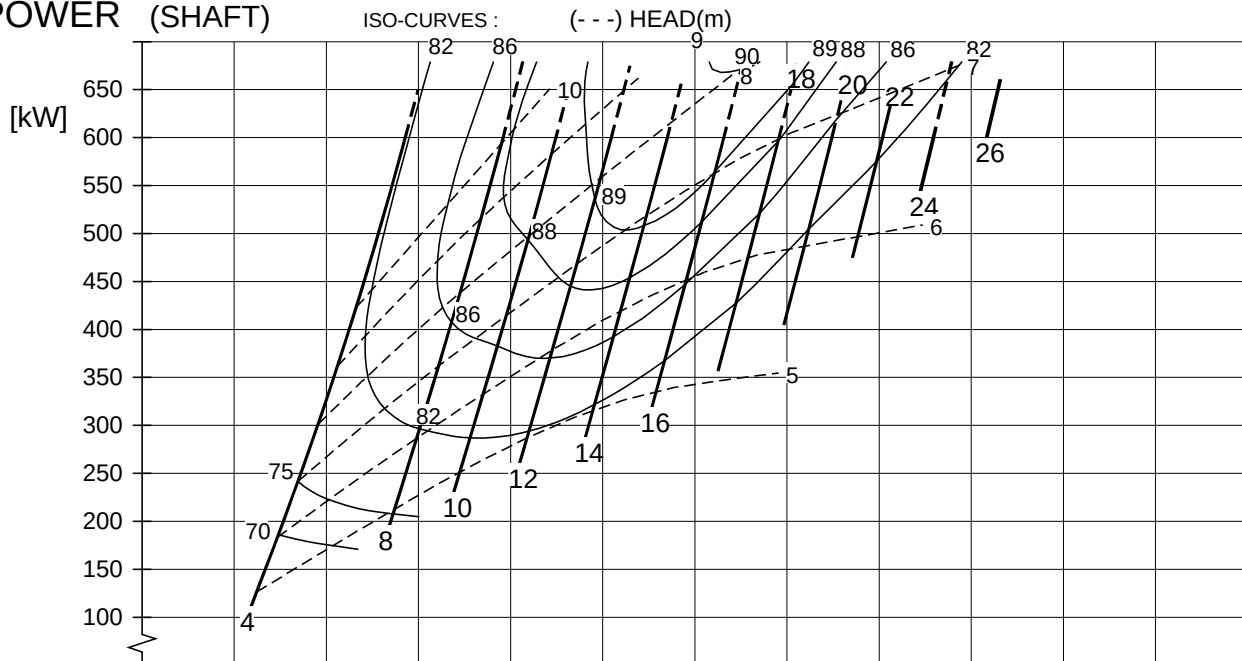
GEN. POWER
600 kW

GEAR TYPE
360-22

GEAR RATIO
1: 3.000

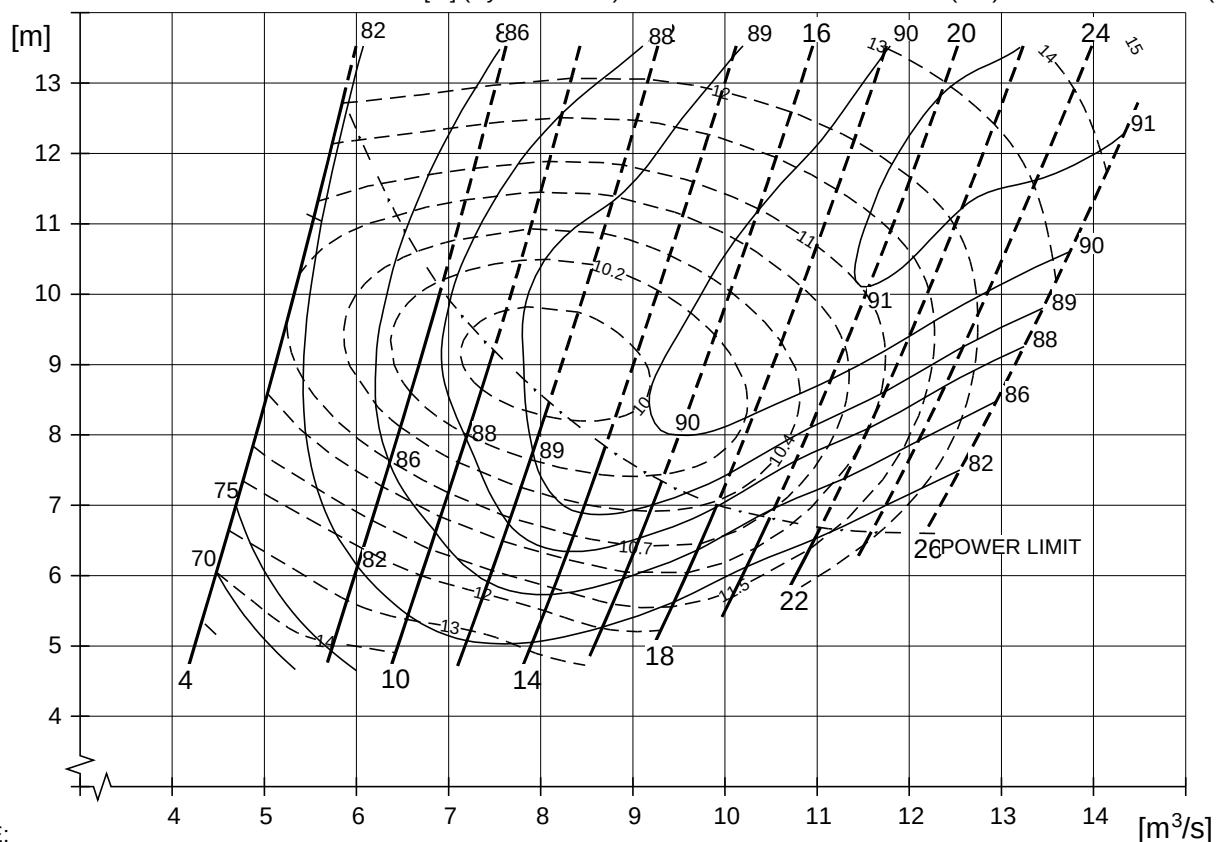
GEAR EFFICIENCY (Load:1/1-3/4)
97.2% - 96.9%

POWER (SHAFT)



HEAD

ISO-CURVES : TURBINE EFFICIENCY[%] (Hydraulic-End) (---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

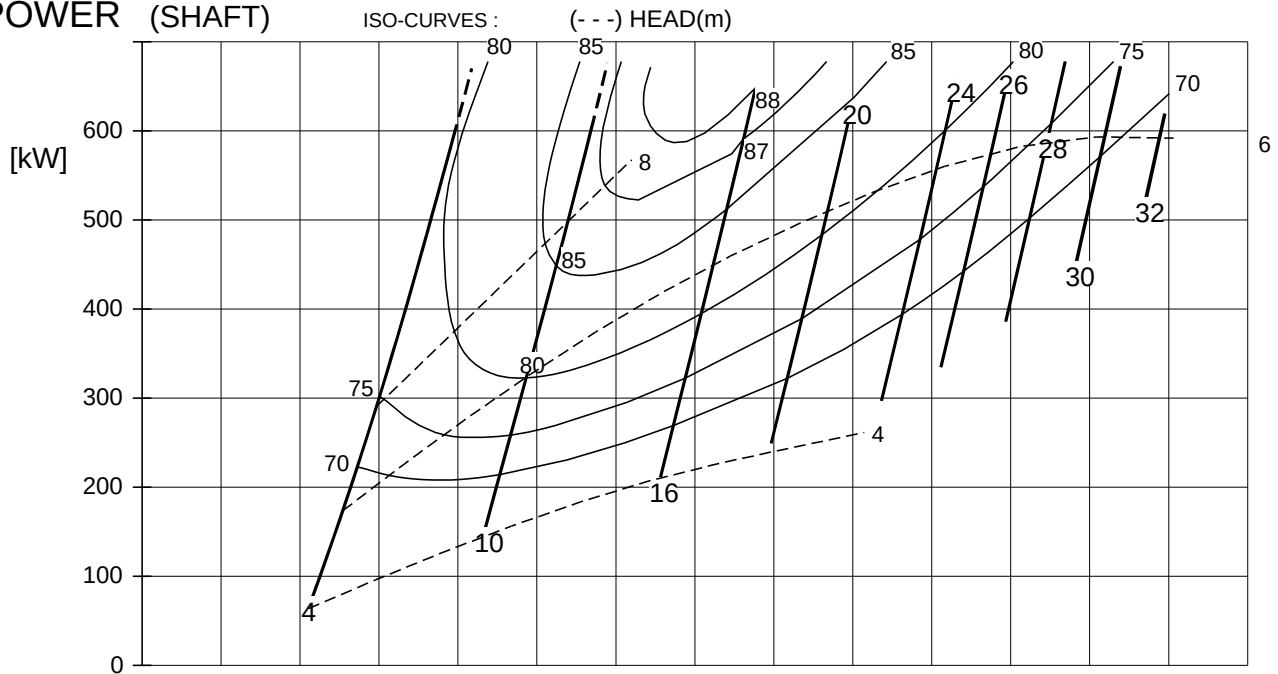
PROD.

EL 7650

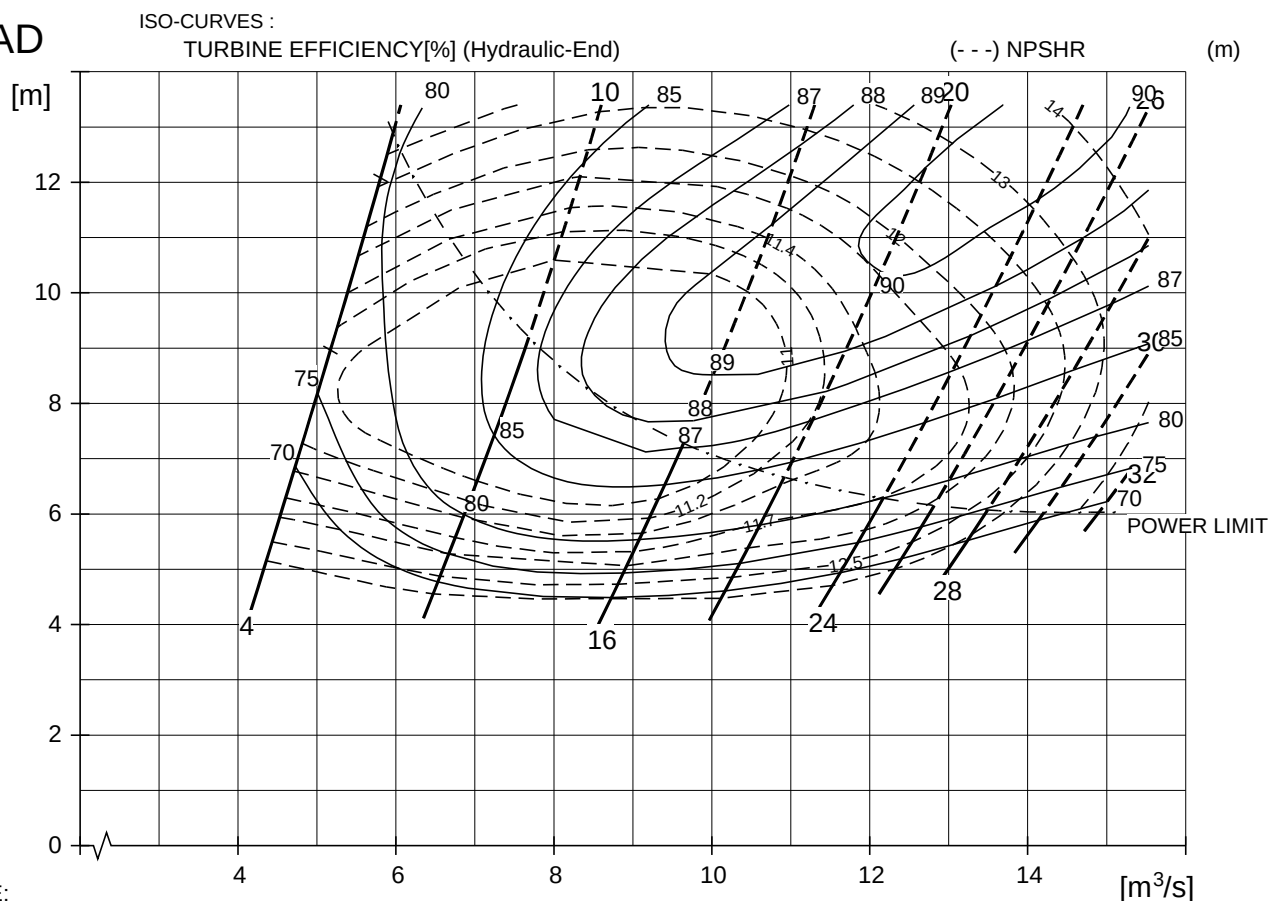
CURVE NO

53- 335 C4EDATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
335 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **32** degDRIVE UNIT
935GENERATOR
66-76-6AAPOLES
6GEN. POWER
600 kWGEAR TYPE
360-22GEAR RATIO
1: 3.000GEAR EFFICIENCY (Load:1/1-3/4)
97.2% - 96.9%

POWER (SHAFT)



HEAD



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

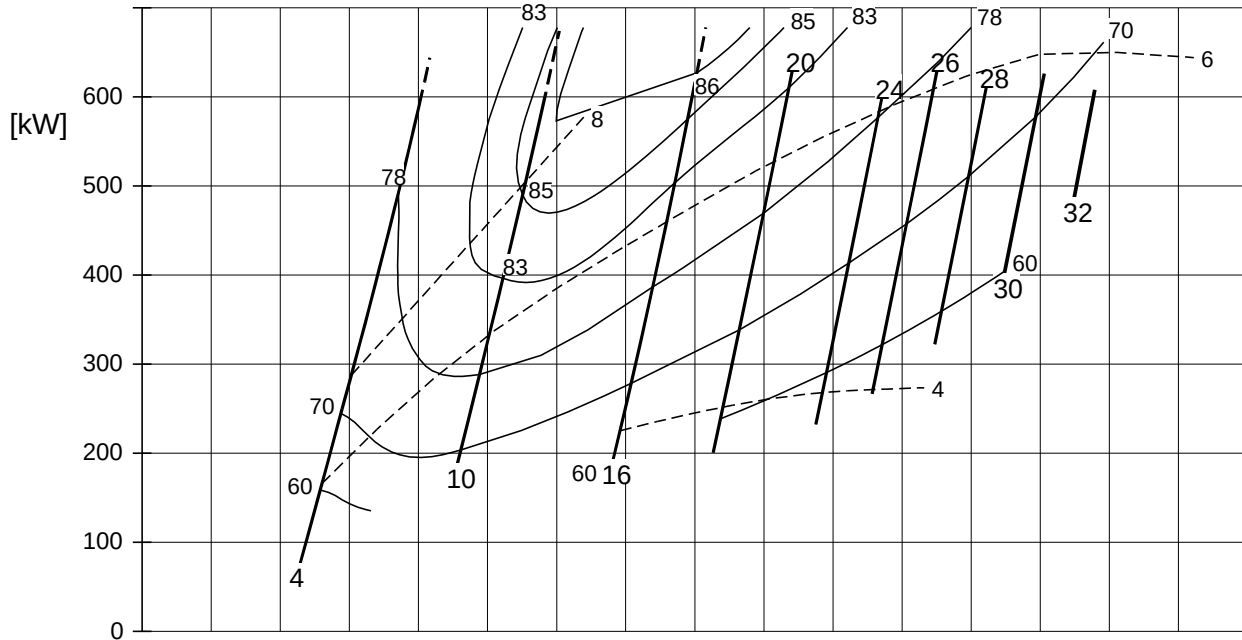
EL 7650

CURVE NO

53- 335 C4EDATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
335 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
77 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM **4** TO **32** degDRIVE UNIT
935GENERATOR
66-76-6AAPOLES
6GEN. POWER
600 kWGEAR TYPE
360-22GEAR RATIO
1: 3.000GEAR EFFICIENCY (Load:1/1-3/4)
97.2% - 96.9%

POWER (SHAFT)

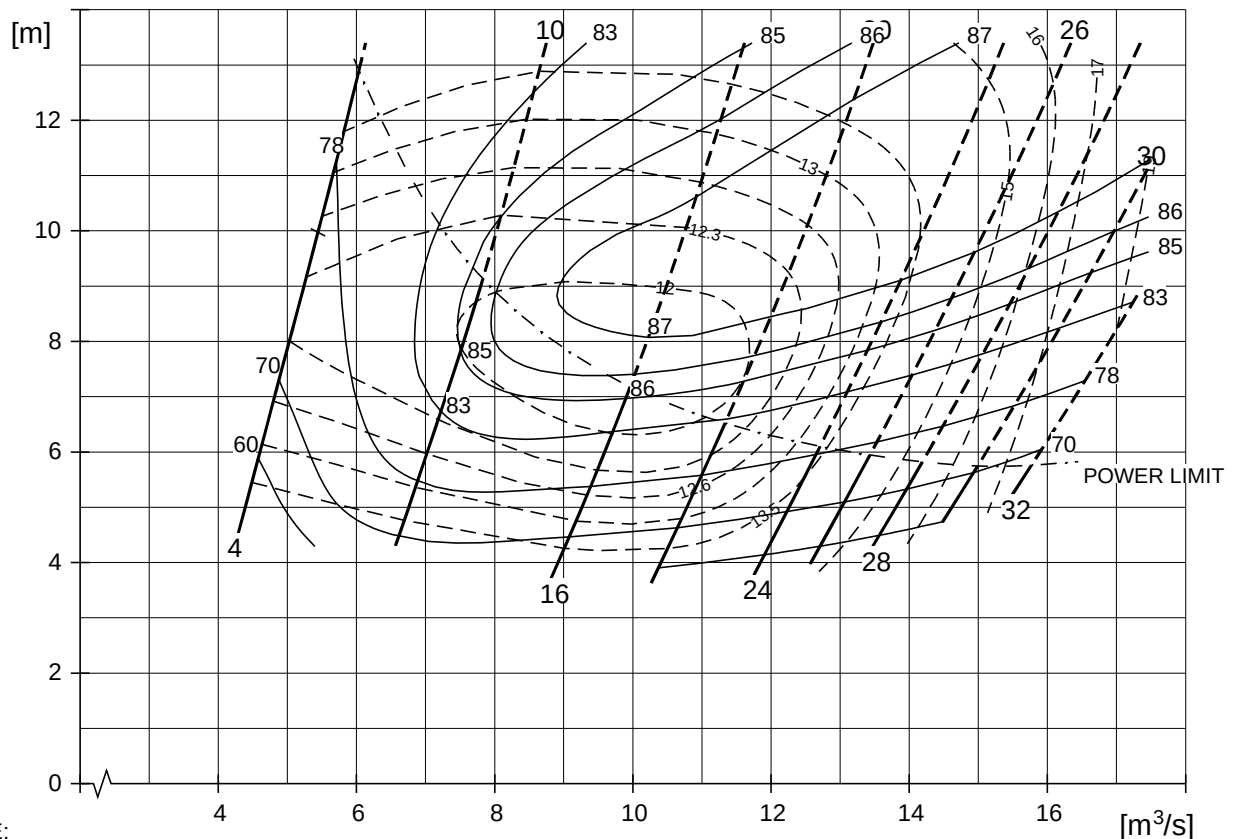
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

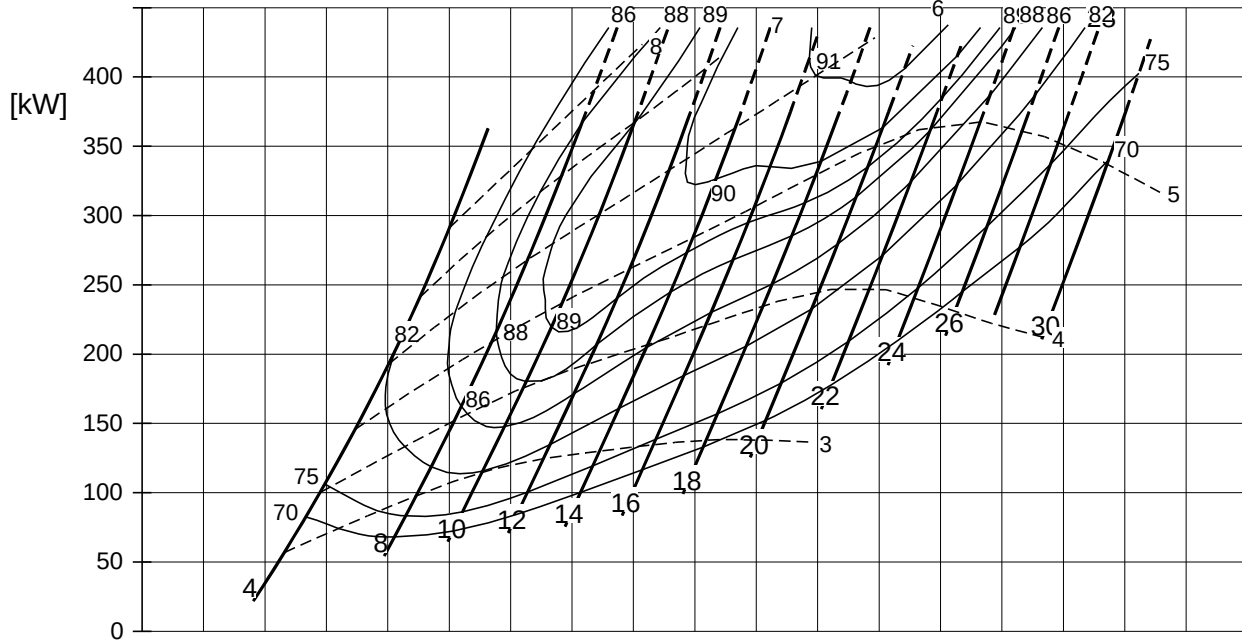
CURVE NO

53- 252 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
252 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
57 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
865GENERATOR
54-66-4AAPOLES
4GEN. POWER
375 kWGEAR TYPE
350-12GEAR RATIO
1: 6.000GEAR EFFICIENCY (Load:1/1-3/4)
97.1% - 96.6%

POWER (SHAFT)

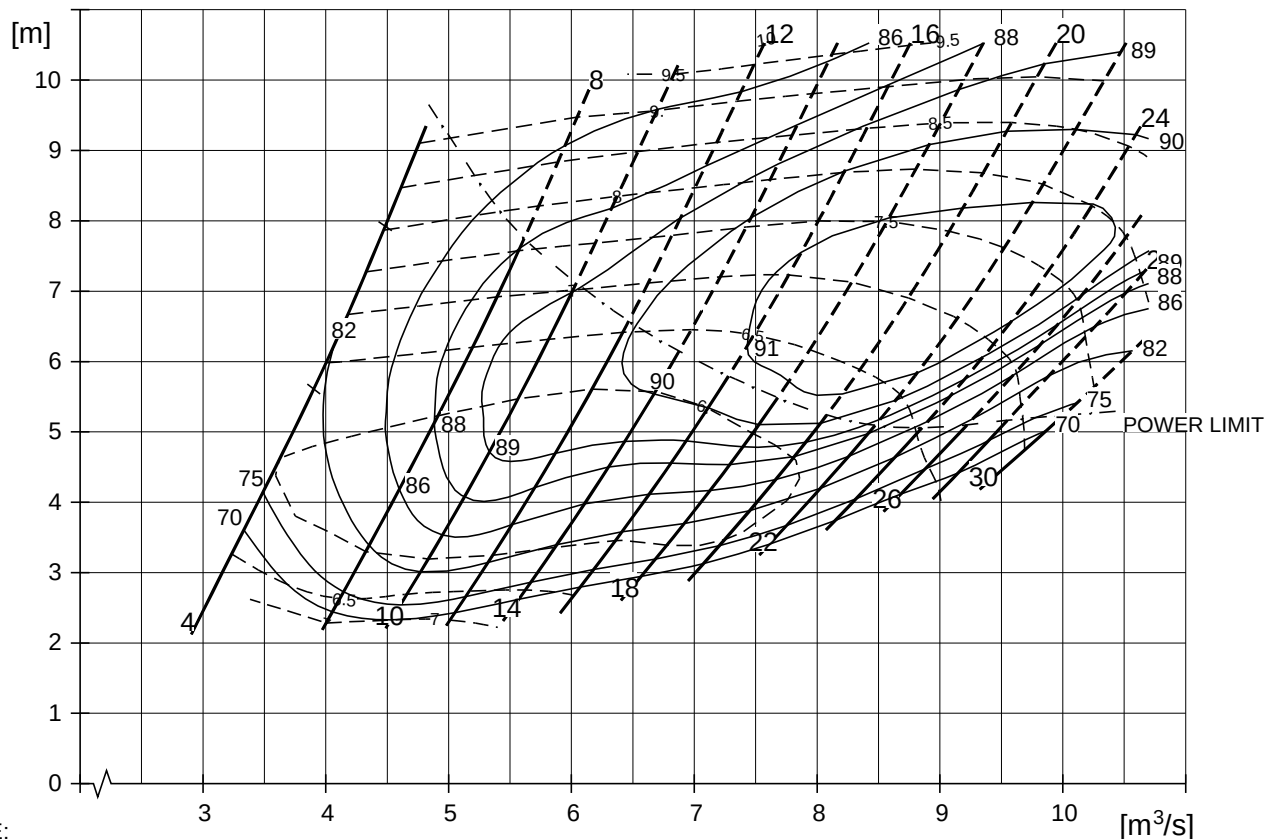
ISO-CURVES : (---) HEAD(m)



HEAD

ISO-CURVES :
TURBINE EFFICIENCY[%] (Hydraulic-End)

(---) NPSHR (m)



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

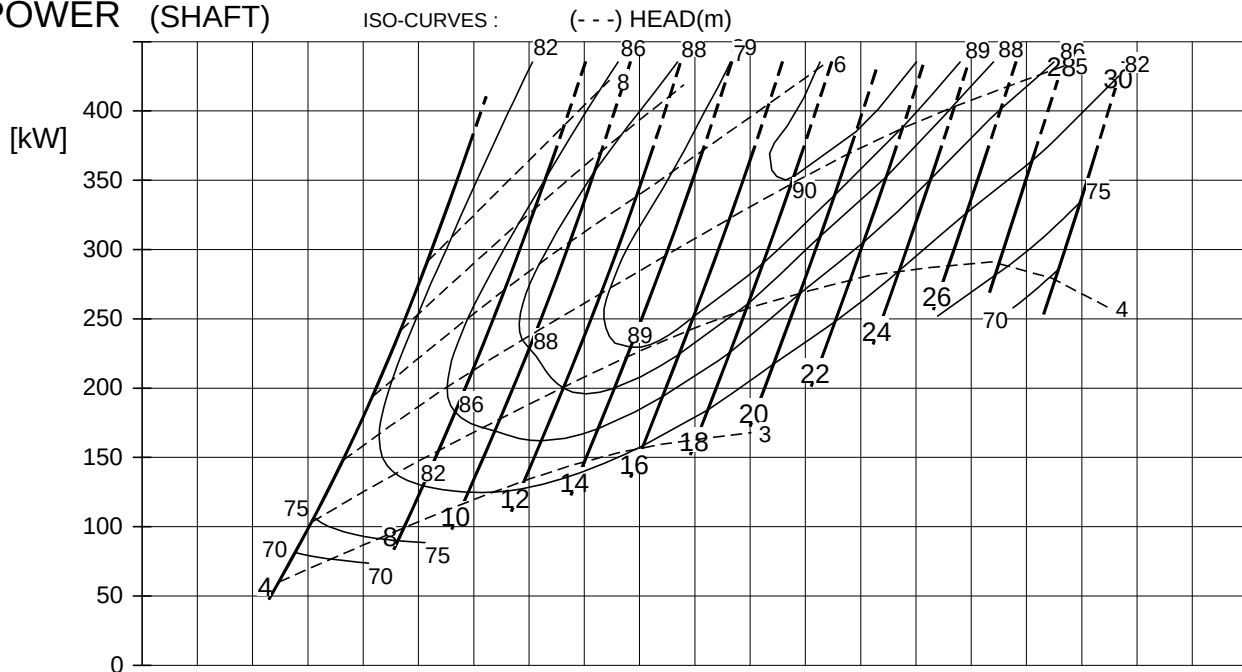
EL 7650

CURVE NO

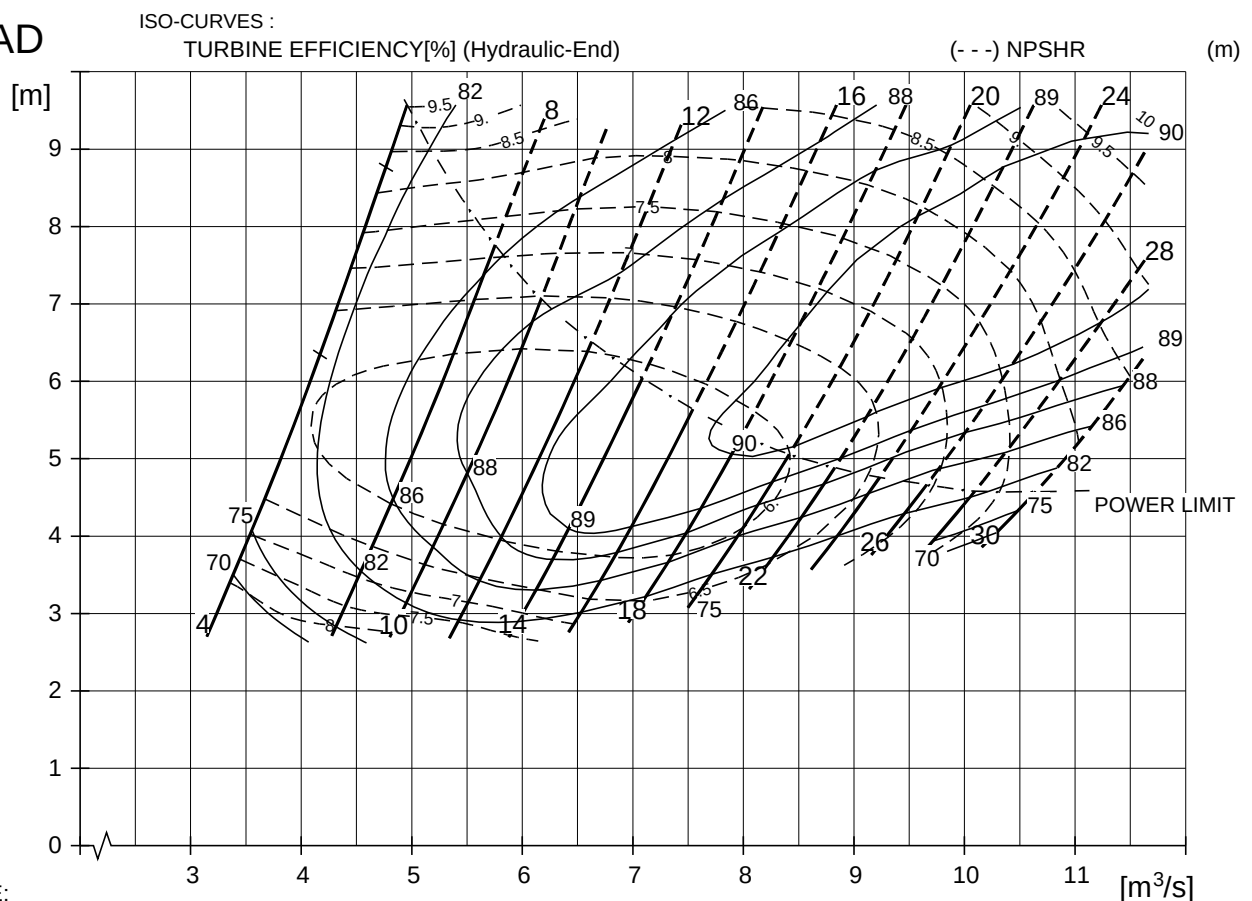
53- 252 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
252 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
63 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 30 degDRIVE UNIT
865GENERATOR
54-66-4AAPOLES
4GEN. POWER
375 kWGEAR TYPE
350-12GEAR RATIO
1: 6.000GEAR EFFICIENCY (Load:1/1-3/4)
97.1% - 96.6%

POWER (SHAFT)



HEAD



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

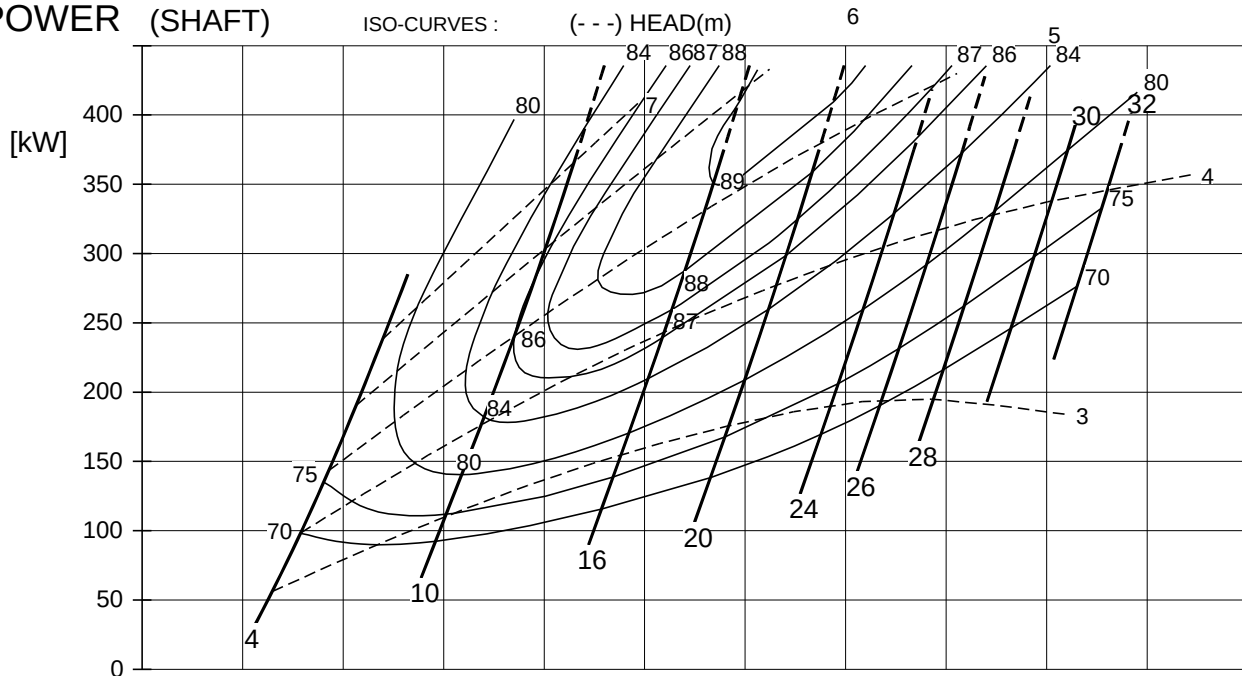
EL 7650

CURVE NO

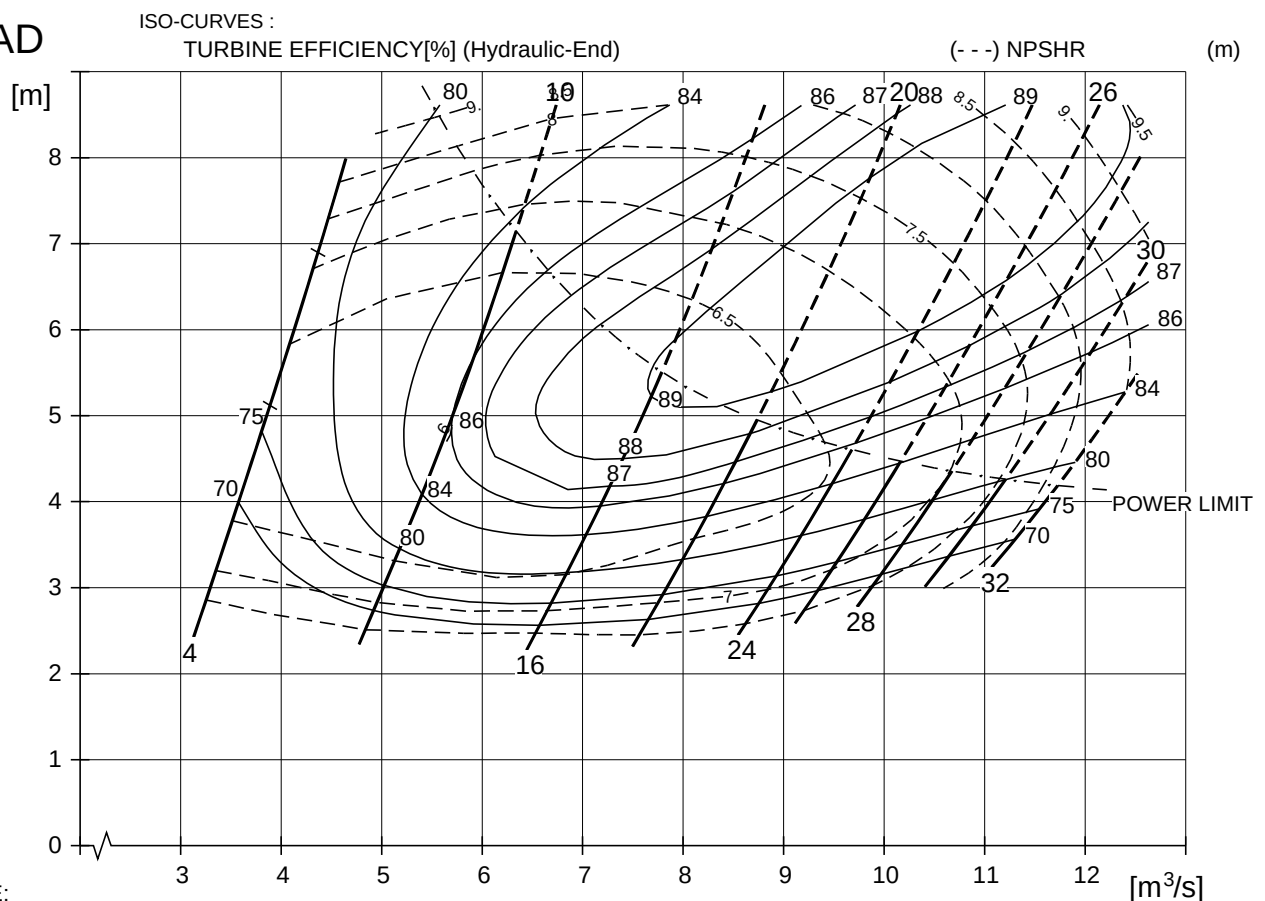
53- 252 C4E

DATE
2016-02-17ISSUE
4FREQ.
50 HZNOMINAL HYDRAULIC-END SPEED
252 RPMIMPELLER/HUB DIAMETER
1500 / 650 mmGUIDE VANE(S)
70 degNO. OF BLADES
4AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 degDRIVE UNIT
865GENERATOR
54-66-4AAPOLES
4GEN. POWER
375 kWGEAR TYPE
350-12GEAR RATIO
1: 6.000GEAR EFFICIENCY (Load:1/1-3/4)
97.1% - 96.6%

POWER (SHAFT)



HEAD



NOTE:

CURVES ARE BASED ON NOMINAL CONSTANT HYDRAULIC-END SPEED.

ELBOW DRAFT-TUBE

FLOW



TURBINE-GENERATOR PERFORMANCE

PROD.

EL 7650

CURVE NO

53- 252 C4E

DATE
2016-02-17

ISSUE
4

FREQ.
50 HZ

NOMINAL HYDRAULIC-END SPEED
252 RPM

IMPELLER/HUB DIAMETER
1500 / 650 mm

GUIDE VANE(S)
77 deg

NO. OF BLADES
4

AVAILABLE BLADE ANGLES
EVERY deg FROM 4 TO 32 deg

DRIVE UNIT
865

GENERATOR
54-66-4AA

POLES
4

GEN. POWER
375 kW

GEAR TYPE
350-12

GEAR RATIO
1: 6.000

GEAR EFFICIENCY (Load:1/1-3/4)
97.1% - 96.6%

POWER (SHAFT)

