



ASPC Project




END CUSTOMER	: Arya Sasol Polymer Company
CONTRACTOR	: DYPNF Co., Ltd.
VENDOR NAME	: Airpack Netherlands BV
EQUIPMENT DESCRIPTION	: Screw Compressor & Roots Blower
PURCHASE ORDER NUMBER	: PO-PC2312-08

Customer Document : 3944-VD-0171-DYP-RE-400-DSH-0019
Number

Airpack Document Number : 23383-11B

Document Title : Compressor data sheets

Please prepare the TCL and submit it with the comments reflected.

Review Code and Status		Contractor Initials/Signature	Date signed
<input type="checkbox"/>	Code 1 REJECTED - Vendor to revise and Resubmit. Work cannot proceed		
<input checked="" type="checkbox"/>	Code 2 Comments As Noted - Work May proceed, subject to compliance with and incorporation of comments		23 Jul 2025
<input type="checkbox"/>	Code 3 No Comments - Work may proceed.		
<input type="checkbox"/>	Code 4 Information only - Review not required.		

02	Issued for Approval	04-07-2025	SC	KP	JJ
01	Issued for Approval	15-05-2025	SC	KP	JJ
00	Issued for Approval	18-03-2025	SC	KP	JJ
Rev. No.	Description	Date	Prepared by	Checked by	Approved by



300 KT polyethylene plant project (ASPC)



DATE: 4-7-2025

DOC NO.: 23383-11B COMPRESSOR DATA SHEET

REV. 02

PAGE: 2 of 6

1	VENDOR (COMPRESSOR):	Airpack Netherlands B.V.			REFERENCE :	23383-COM				
2	TYPE / MODEL:	Aerzen VM100			SERIAL NO.:	T-2025-00804/00805				
3	SERVICE:	Nitrogen compressor			OPERATION :	Continuous				
4	QUANTITY:	2 (1+1)			ITEM NO.:	44C-40001A/B				
5	INLET CONDITIONS				PACKAGE SCOPE OF SUPPLY					
6	GAS HANDLED:	Nitrogen			COMPRESSOR TYPE:	Oil free screw				
7	INLET CONDITIONS				DRIVER TYPE:	MV motor				
8	PRESSURE	bar(g)	0,05	COUPLING / GUARD:	Flexible / Non-sparking					
9	TEMPERATURE	°C	48	RCU AND SAFETY SWITCHES FOR MOTORS:	N/A					
10	REL. HUMIDITY	%	0	INTAKE FILTER / SILENCER:	By others / Included					
11	OPERATING DENSITY	kg/m3	1,1	INTERCOOLING:	N/A					
12	MOLECULAR MASS	g/mol	28	AFTERCOOLER:	N/A					
13	Cp/Cv		1,4	LUBE-OIL COOLER:	Air-cooled					
14	Z		1	LUBE-OIL FILTER:	Included					
15	VISCOSITY	PaS	1.92*10 ⁻⁵	AUTO CONDENSATE TRAP:	N/A					
16	DISCHARGE CONDITIONS				AIR DRYER:	N/A				
17	PRESSURE	bar(g)	1,89	NITROGEN GENERATOR:	N/A					
18	FLOW RATE	Nm ³ /h	6416	BLOW-OFF SILENCER:	N/A					
19	TEMPERATURE	°C	189	CONTROL PANEL:	LPS and Junction box					
20	CONNECTION	ANSI 10" 150# RF			VIBRATION MONITOR:	N/A				
21	COMP. PERFORMANCE				INTERCONNECTING PIPEWORK & VALVES:	N/A				
22	SPEED	rpm	6994	ACOUSTIC ENCLOSURE:	Included					
23	ABSORBED POWER	kW	356	FOUNDATION BOLTS:	Included					
24	TYPE	Oil free screw			RECEIVER VESSELS:	N/A				
25	DESIGN TEMP/PRESS	°C/bar(g)	-10-280 / 5	LIGHTING:	N/A					
26	COMPRESSION RATIO		2,73	BASEPLATE:	Included					
27	VOL. EFFICIENCY	%	99,8	FIRST OIL FILLING:	Included					
28	NOISE @ 1M	dBA	80							
29	DRIVER PERFORMANCE 44C-40001A/B-M1				UTILITY SUPPLIES					
30	OPERATING SPEED	rpm	2988	ELECTRICAL SUPPLY :						
31	RATING	kW	450	V	6000	PH	3	Hz	50	
32	MANUFACTURER	WEG			V	400	PH	3	Hz	50
33	NO. OF POLES	2			V	230	PH	1	Hz	50
34	DRIVE	DIRECT			COOLING MEDIUM :					
35	NOTE	NOTE 1			TEMPERATURE:					
36	COOLING METHOD	TEFC			PRESSURE:					
37	SITE CONDITIONS				WEIGHTS AND DIMENSIONS					
38	ELEVATION	m	<1000	COMPRESSOR	kg	3716				
39	AMB. TEMPERATURE	°C	5-48	DRIVER	kg	4100				
40	AMB. PRESSURE	bar(g)	0	MISCELLANEOUS	kg	3900				
41	REL. HUMIDITY	%	65-100	TOTAL	kg	+/-12000				
42	AREA CLASSIFICATION	Zone 2 group IIB, T3								
43	NOISE LIMITATION	dBA	85	SIZE	mm	L X W X H	5700 X 2903 X 2080			
44	MCT: ASTM specification for all materials shall be specified in vendor datasheet.									
45	RED: Also it can be ASTM STD equivalent for mentioned material.									
46					BEARING HOUSING					
47	CASING				TYPE					
48	MATERIAL	EN-GJL-250			ANTI-FRICTION					
49	COOLING	AIR-COOLED			BALL / ROLLER					
50	DRIVE DIRECTION	CW			LUBRICATION					
51					LUBE SYSTEM :					
52					LUBE OIL PUMP DRIVE :					
53					SYSTEM OIL CAPACITY					
54	NO. OF LOBES MALE	4			LUBE OIL COOLER					
55	NO. OF LOBES FEMALE	6			AIR-COOLED					
56	MATERIAL	C45N			LUB. Client: Vendor to confirm that timing gear shall be made of forged OR rolled steel (according to API-619 OR ISO 10440-2) with an minimum quality grade 5.6 as per ISO 1328-2.					
57					DED					
58	TIMING GEARS				STANDARDS AND SPECIFICATIONS					
59	MATERIAL	16 Mm Cr5			Compressor: Mfr. Std.					
60	TYPE	HELICAL, TEETH HARDENED								
61	SEALING				INSTRUMENTATION					
62	SHAFT SEALING TYPE	LABYRINTH			FUNCTION			TYPE(S)		
63					COMPRESSOR INLET PRESSURE			GAUGE & TRANSMITTER		
64	SKID / COMPRESSOR CONNECTIONS (ASME B16.5)				COMPRESSOR DISCHARGE TEMPERATURE			TRANSMITTER		
65	NOZZLE	SIZE	RATING	FACING	POSITION	COMPRESSOR DISCHARGE PRESSURE				
66	NITROGEN INLET	12"	150#	RF	TOP	COMPRESSOR OIL TEMPERATURE				
67	NITROGEN DISCHARGE	10"	150#	RF	TOP	COMPRESSOR OIL PRESSURE				
68	PSV OUTLET	6"	150#	RF	TOP	COMPRESSOR ENCLOSURE TEMPERATURE				
69					COMPRESSOR OIL LEVEL			SIGHT GLASS		
70					MAIN MOTOR TEMPERATURE (BEARINGS AND WINDINGS)					
71	NOTES : 1: FOR MORE INFORMATION ABOUT THE DRIVER REFER TO MOTOR DATASHEET									
72										

Sazeh RED: Shall be mentioned in next revision.



300 KT polyethylene plant project (ASPC)



DATE: 4-7-2025

DOC NO.: 23383-11B COMPRESSOR DATA SHEET

REV. 02

PAGE: 3 of 6

1	VENDOR (COMPRESSOR):	Airpack Netherlands B.V.		REFERENCE :	23383-COM	
2	TYPE / MODEL:	Aerzen VML95		SERIAL NO.:	T-2025-00806/00807	
3	SERVICE:	Air compressor		OPERATION :	Continuous	
4	QUANTITY:	2 (1+1)		ITEM NO.:	44C-80001A/B	
5	INLET CONDITIONS			PACKAGE SCOPE OF SUPPLY		
6	GAS HANDLED:	Air		COMPRESSOR TYPE:	Oil free screw	
7	INLET CONDITIONS			DRIVER TYPE:	MV motor	
8	PRESSURE	bar(g)	0	COUPLING / GUARD:	Flexible / Non-sparking	
9	TEMPERATURE	°C	5-48	RCU AND SAFETY SWITCHES FOR MOTORS:	N/A	
10	REL. HUMIDITY	%	65-100	INTAKE FILTER / SILENCER:	Included	
11	OPERATING DENSITY	kg/m3	1.1	INTERCOOLING:	N/A	
12	MOLECULAR MASS	g/mol	28.97	AFTERCOOLER:	N/A	
13	Cp/Cv		1.4	LUBE-OIL COOLER:	Air-cooled	
14	Z		1	LUBE-OIL FILTER:	Included	
15	VISCOSITY	PaS	1.97*10 ⁻⁵	AUTO CONDENSATE TRAP:	N/A	
16	INLET FILTER DIFF. PRESS.	Mbar	10			
17	DISCHARGE CONDITIONS			AIR DRYER:		
18	PRESSURE	bar(g)	1.46	NITROGEN GENERATOR:		
19	FLOW RATE	Nm³/h	4247	BLOW-OFF SILENCER:		
20	TEMPERATURE	°C	167	CONTROL PANEL:		
21	CONNECTION	ANSI 10" 150# RF		VIBRATION MONITOR:		
22	COMP. PERFORMANCE			INTERCONNECTING PIPEWORK & VALVES:		
23	SPEED	rpm	6253	ACOUSTIC ENCLOSURE:		
24	ABSORBED POWER	kW	195	FOUNDATION BOLTS:		
25	TYPE	Oil free screw		RECEIVER VESSELS:		
26	DESIGN TEMP/PRESS	°C/bar(g)	-10-230 / 3.2	LIGHTING:		
27	COMPRESSION RATIO		2.44	BASEPLATE:		
28	VOL. EFFICIENCY	%	96.6	FIRST OIL FILLING:		
29	NOISE @ 1M	dBA	78			
29	DRIVER PERFORMANCE 44C-80001A/B-M1			UTILITY SUPPLIES		
30	OPERATING SPEED	rpm	2980	ELECTRICAL SUPPLY :		
31	RATING	kW	250	V	6000	PH 3 Hz 50
32	MANUFACTURER	WEG		V	400	PH 3 Hz 50
33	NO. OF POLES		2	V	230	PH 1 Hz 50
34	DRIVE	DIRECT		COOLING MEDIUM :		
35		NOTE 1		TEMPERATURE:		
36	COOLING METHOD	TEFC		PRESSURE:		
37	SITE CONDITIONS			WEIGHTS AND DIMENSIONS		
38	ELEVATION	m	<1000	COMPRESSOR	kg	2568
39	AMB. TEMPERATURE	°C	5-48	DRIVER	kg	2141
40	AMB. PRESSURE	bar(g)	0	MISCELLANEOUS	kg	TBD
41	REL. HUMIDITY	%	65-100	TOTAL	kg	TBD
42	AREA CLASSIFICATION	Safe area				
43	NOISE LIMITATION	dBA	85	SIZE	mm L X W X H	5500 X 1700 X 1880
44	MCT: ASTM specification for all materials shall be specified in vendor datasheet					
45						
46				BEARING HOUSING		
47	CASING			TYPE ANTI-FRICTION		
48	MATERIAL	EN-GJL-250		BALL / ROLLER		
49	COOLING	AIR-COOLED		ROLLER		
50	DRIVE DIRECTION	CW		LUBRICATION		
51				LUBE SYSTEM :		
52				LUBE OIL PUMP DRIVE :		
53				SYSTEM OIL CAPACITY		
54	NO. OF LOBES MALE	3		LUBE OIL COOLER		
55	NO. OF LOBES FEMALE	4		AIR-COOLED		
56	MATERIAL	C45N		INCLUDED		
57				YES		
58	TIMING GEARS			STANDARDS AND SPECIFICATIONS		
59	MATERIAL	16 Mn Cr5		Compressor: Mfr. Std.		
60	TYPE	HELICAL, TEETH HARDENED				
61	SEALING			INSTRUMENTATION		
62	SHAFT SEALING TYPE	LABYRINTH		FUNCTION		
63				TYPE(S)		
64				COMPRESSOR INLET PRESSURE		
65	SKID / COMPRESSOR CONNECTIONS (ASME B16.5)			COMPRESSOR DISCHARGE TEMPERATURE		
66	NOZZLE	SIZE	RATING	FACING	POSITION	COMPRESSOR DISCHARGE PRESSURE
67				COMPRESSOR OIL TEMPERATURE		
68	AIR DISCHARGE	10"	150#	RF	TOP	COMPRESSOR OIL PRESSURE
69				COMPRESSOR INLET FILTER DIFF.PRESSURE		
70				COMPRESSOR OIL LEVEL		
70				MAIN MOTOR TEMPERATURE (BEARINGS AND WINDINGS)		
71	NOTES : 1: FOR MORE INFORMATION ABOUT THE DRIVER REFER TO MOTOR DATASHEET					
72						

MC PR: as a general comment about conveying air compressor suction pressure of all compressor is -0.010 barg(Based on related PFD)

MC/FSD: To be mentioned

Sazeh RED: Shall be mentioned in next revision.

Sazeh RED: Inlet nozzle to be added to connection list.

ASPC Process:
 The attached TCL pertains to Compressor C-80001A/B, not Blower C-80002A/B as intended. Additionally, the vendor's response to the client's comment remains unclear, necessitating repetition of the comment for clarification.



300 KT polyethylene plant project (ASPC)



DATE: 4-7-2025 DOC NO.: 23383-11B COMPRESSOR DATA SHEET REV. 02 PAGE: 4 of 6

1	VENDOR (COMPRESSOR):	Airpack Netherlands B.V.	MC PR: as a general comment about conveying air compressor suction pressure of all compressor is -0.010 barg(Based on related PFD).
2	TYPE / MODEL:	Aerzen GM100S	SERIAL NO.: T-2025-00808/00809
3	SERVICE:	Roots Blower	OPERATION: Semi-Continuous
4	QUANTITY:	2 (1+1)	ITEM NO.: 44C-80002A/B
5	INLET CONDITIONS		PACKAGE SCOPE OF SUPPLY
6	GAS HANDLED:	Air	COMPRESSOR TYPE: Positive Displacement
7	INLET CONDITIONS		DRIVER TYPE: MV motor
8	PRESSURE	bar(g) 0	COUPLING / GUARD: V-Belt / V-Belt guard
9	TEMPERATURE	°C 5-48	RCU AND SAFETY SWITCHES FOR MOTORS: N/A
10	REL. HUMIDITY	% 65-100	INTAKE FILTER / SILENCER: Included
11	OPERATING DENSITY	kg/m3 1.1	INTERCOOLING: N/A
12	MOLECULAR MASS	g/mol 28.97	AFTERCOOLER: N/A
13	Cp/Cv	1.4	LUBE-OIL COOLER: Air-cooled
14	Z	1	LUBE-OIL FILTER: Included
15	VISCOSITY	PaS 1.97*10 ⁻⁵	
16	INLET FILTER DIFF. PRESS.	Mbar 10	ASPC repeated Process: As operating temperature of compressor discharge is 154, so considering 155 as design temperature of 44C-80002 to be rechecked. Design margin has not been The design temperature should typically be 10-20°C higher than the maximum operating temperature (here normal discharge Temp is 154°C) to account for potential fluctuations and abnormal conditions. same as what vendor considered for C-80001A/B (OT:167 °C; DT: 230°C). Please review and clarify.
17	DISCHARGE CONDITIONS		
18	PRESSURE	bar(g) 0.97	
19	FLOW RATE	Nm ³ /h 4266	
20	TEMPERATURE	°C 154	
21	CONNECTION	ANSI 10" 150# RF	
22	COMP. PERFORMANCE		INTERCONNECTING PIPEWORK & VALVES: N/A
23	SPEED	rpm 2244	ACOUSTIC ENCLOSURE: Included
24	ABSORBED POWER	kW 193	FOUNDATION BOLTS: Included
25	TYPE	Positive Displacement	RECEIVER VESSELS: N/A
26	DESIGN TEMP/PRESS	°C/bar(g) -10-155/ 2.1	LIGHTING: N/A
27	COMPRESSION RATIO	1.95	BASEPLATE: Included
28	VOL. EFFICIENCY	% 96.7	FIRST OIL FILLING: Included
29	NOISE @ 1M	dBA 81	
29	DRIVER PERFORMANCE 44C-80002A/B-M1		UTILITY SUPPLIES
30	OPERATING SPEED	rpm 1488	ELECTRICAL SUPPLY:
31	RATING	kW 250	V 6000 PH 3 Hz 50
32	MANUFACTURER	WEG	V 400 PH 3 Hz 50
33	NO. OF POLES	4	V 230 PH 1 Hz 50
34	DRIVE	V-BELT	COOLING MEDIUM: AIR
35	NOTE 1		TEMPERATURE: AMBIENT
36	COOLING METHOD	TEFC	PRESSURE: AMBIENT
37	SITE CONDITIONS		WEIGHTS AND DIMENSIONS
38	ELEVATION	m <1000	BLOWER kg 1408
39	AMB. TEMPERATURE	°C 5-48	DRIVER kg 2235
40	AMB. PRESSURE	bar(g) 0	MISCELLANEOUS kg TBD
41	REL. HUMIDITY	% 65-100	TOTAL kg TBD
42	AREA CLASSIFICATION	Safe area	
43	NOISE LIMITATION	dBA 85	SIZE mm L X W X H 3000 X 2350 X 2600
44			
45			
46			BEARING HOUSING
47	CASING		TYPE: ANTI-FRICTION
48	MATERIAL	EN-GJL-200	BALL / ROLLER: ROLLER
49			
50	DRIVE	MCT: ASTM specification for all materials shall be specified in vendor datasheet	LUBRICATION
51			LUBE SYSTEM: OIL SPLASH LUBRICATION
52			LUBE OIL PUMP DRIVE: kW N/A
53			SYSTEM OIL CAPACITY: L TBD
54	NO. OF LOBES MALE	3	COOLING: AIR-COOLED
55	NO. OF LOBES FEMALE	3	INCLUDED
56	MATERIAL	EN-GJS-500	N/A
57			
58	TIMING GEARS		STANDARDS AND SPECIFICATIONS
59	MATERIAL	16 Mn Cr5	Blower: Mfr. Std.
60	TYPE	HELICAL, TEETH HARDENED	
61	SEALING		INSTRUMENTATION
62	SHAFT SEALING TYPE	RADIAL SEAL RING	FUNCTION TYPE(S)
63			BLOWER INLET PRESSURE GAUGE & TRANSMITTER
64	SKID / COMPRESSOR CONNECTIONS (ASME B16.5)		BLOWER INLET FILTER DIFF. PRESSURE TRANSMITTER
65	NOZZLE	SIZE RATING FACING POSITION	BLOWER DISCHARGE TEMPERATURE TRANSMITTER
66			BLOWER DISCHARGE PRESSURE GAUGE & TRANSMITTER
67	AIR DISCHARGE	10" 150# RF SIDE	MAIN MOTOR TEMPERATURE (BEARINGS AND WINDINGS) RTD
68			
69			
70			
70			SazehRED: Inlet nozzle to be added to connection list.
71	NOTES : 1: FOR MORE INFORMATION ABOUT THE DRIVER REFER TO MOTOR DATASHEET		
72			

Sazeh RED:
 Shall be mentioned in next revision.

Client: Vendor to confirm that timing gear shall be made of forged OR rolled steel (according to API-619 OR ISO 10440-2) with an minimum quality grade 5.6 as per ISO 1328-2.

ASPC Process:
 The attached TCL pertains to Compressor C-80001A/B, not compressor C-80004A/B as intended. Additionally, the vendor's response to the client's comment remains unclear, necessitating repetition of the comment for clarification.



300 KT polyethylene reptition plant project (ASPC)



DATE: 4-7-2025 DOC NO.: 23383-11B COMPRESSOR DATA SHEET REV. 02 PAGE: 5 of 6

1	VENDOR (COMPRESSOR):	Airpack Netherlands B.V.		REFERENCE :	23383-COM	
2	TYPE / MODEL:	Aerzen VM140		SERIAL NO.:	T-2025-00810/00811	
3	SERVICE:	Air compressor		OPERATION :	Continuous	
4	QUANTITY:	2 (1+1)		ITEM NO.:	44C-80004A/B	
5	INLET CONDITIONS			PACKAGE SCOPE OF SUPPLY		
6	GAS HANDLED:	Air		COMPRESSOR TYPE:	Oil free screw	
7	INLET CONDITIONS			DRIVER TYPE:	MV motor	
8	PRESSURE	bar(g)	0	COUPLING / GUARD:	Flexible / Non-sparking	
9	TEMPERATURE	°C	5-48	RCU AND SAFETY SWITCHES FOR MOTORS:	N/A	
10	REL. HUMIDITY	%	65-100	INTAKE FILTER / SILENCER:	Included	
11	OPERATING DENSITY	kg/m3	1.1	INTERCOOLING:	N/A	
12	MOLECULAR MASS	g/mol	28.97	AFTERCOOLER:	N/A	
13	Cp/Cv		1.4	LUBE-OIL COOLER:	Air-cooled	
14	Z		1	LUBE-OIL FILTER:	Included	
15	VISCOSITY	PaS	1.97*10 ⁻⁵	AUTO CONDENSATE TRAP:	N/A	
16	INLET FILTER DIFF. PRESS.	Mbar	10	AIR DRYER:	N/A	
17	DISCHARGE CONDITIONS			NITROGEN GENERATOR:	N/A	
18	PRESSURE	bar(g)	2.2	BLOW-OFF SILENCER:	N/A	
19	FLOW RATE	Nm³/h	7339	CONTROL PANEL:	LPS and Junction box	
20	TEMPERATURE	°C	205	VIBRATION MONITOR:	N/A	
21	CONNECTION	ANSI 10" 150# RF		INTERCONNECTING PIPEWORK & VALVES:	N/A	
22	COMP. PERFORMANCE			ACOUSTIC ENCLOSURE:	Included	
23	SPEED	rpm	5860	FOUNDATION BOLTS:	Included	
24	ABSORBED POWER	kW	475	RECEIVER VESSELS:	N/A	
25	TYPE	Oil free screw		LIGHTING:	N/A	
26	DESIGN TEMP/PRESS	°C/bar(g)	-10-280 / 5	BASEPLATE:	Included	
27	COMPRESSION RATIO		3.17	FIRST OIL FILLING:	Included	
28	VOL. EFFICIENCY	%	96.5	UTILITY SUPPLIES		
29	NOISE @ 1M	dBA	85	ELECTRICAL SUPPLY :		
30	DRIVER PERFORMANCE 44C-80004A/B-M1			V	6000	PH 3 Hz 50
31	OPERATING SPEED	rpm	2985	V	400	PH 3 Hz 50
32	RATING	kW	590	V	230	PH 1 Hz 50
33	MANUFACTURER	WEG		COOLING MEDIUM :		
34	NO. OF POLES	2		AIR		
35	DRIVE	DIRECT		TEMPERATURE:	AMBIENT	
36	NOTE 1					
37	COOLING METHOD	TEFC		PRESSURE:	AMBIENT	
38	SITE CONDITIONS			WEIGHTS AND DIMENSIONS		
39	ELEVATION	m	<1000	COMPRESSOR	kg	5298
40	AMB. TEMPERATURE	°C	5-48	DRIVER	kg	4002
41	AMB. PRESSURE	bar(g)	0	MISCELLANEOUS	kg	TBD
42	REL. HUMIDITY	%	65-100	TOTAL	kg	TBD
43	AREA CLASSIFICATION	Safe area		SIZE	mm L X W X H	6000 X 2180 X 3413
44	NOISE LIMITATION	dBA	85			
45	MCT: ASTM specification for all materials shall be specified in vendor datasheet			BEARING HOUSING		
46				TYPE	ANTI-FRICTION	
47	MATERIAL	EN-GJL-250		BALL / ROLLER	ROLLER	
48	COOLING	AIR-COOLED		LUBRICATION		
49	DRIVE DIRECTION	CW		LUBE SYSTEM :	FORCED LUBRICATION, AIR COOLED	
50				LUBE OIL PUMP DRIVE :	kW	SHAFT DRIVEN
51				SYSTEM OIL CAPACITY	L	TBD
52	ROTOR			LUBE OIL COOLER	AIR-COOLED	
53	NO. OF LOBES MALE	4		INCLUDED		
54	NO. OF LOBES FEMALE	6		YES		
55	MATERIAL	C45N		STANDARDS AND SPECIFICATIONS		
56	TIMING GEARS			Compressor: Mfr. Std.		
57	MATERIAL	16 MnCr5				
58	TYPE	HELICAL, TEETH HARDENED		INSTRUMENTATION		
59	SEALING			FUNCTION	TYPE(S)	
60	SHAFT SEALING TYPE	LABYRINTH		COMPRESSOR INLET PRESSURE	GAUGE & TRANSMITTER	
61	SKID / COMPRESSOR CONNECTIONS (ASME B16.5)			COMPRESSOR DISCHARGE TEMPERATURE	TRANSMITTER	
62	NOZZLE	SIZE	RATING	COMPRESSOR DISCHARGE PRESSURE	GAUGE & TRANSMITTER	
63			FACING	COMPRESSOR OIL TEMPERATURE	TRANSMITTER	
64			POSITION	COMPRESSOR OIL PRESSURE	GAUGE & TRANSMITTER	
65	AIR DISCHARGE	10"	150#	COMPRESSOR INLET FILTER DIFF.PRESSURE	TRANSMITTER	
66			RF	COMPRESSOR OIL LEVEL	SIGHT GLASS	
67			TOP	MAIN MOTOR TEMPERATURE (BEARINGS AND WINDINGS)	RTD	
68	SazehRED: Inlet nozzle to be added to connection list.					
69	NOTES : 1: FOR MORE INFORMATION ABOUT THE DRIVER REFER TO MOTOR DATASHEET					
70						
71						
72						



300 Kt polyethylene plant project (ASPC)



ASPC Process:
The attached TCL pertains to Compressor C-80001A/B, not compressor C-80005A/B/C as intended. Additionally, the vendor's response to the client's comment remains unclear, necessitating repetition of the comment for clarification.

DATE: 4-7-2025 DOC NO.: 23383-11B COMPRESSOR DATA SHEET REV. 02 PAGE: 6 of 6

1	VENDOR (COMPRESSOR)	Airpack Netherlands B.V.		REFERENCE :	23383-COM	
2	TYPE / MODEL	Aerzen VML95		SERIAL NO. :	T-2025-00812/00813/00814	
3	SERVICE	Air compressor		OPERATION :	Continuous	
4	QUANTITY	3 (2+1)		ITEM NO. :	44C-80005A/B/C	
5	INLET CONDITIONS			PACKAGE SCOPE OF SUPPLY		
6	GAS HANDLED	Air		COMPRESSOR TYPE :	Oil free screw	
7	INLET CONDITIONS			DRIVER TYPE :	MV motor	
8	PRESSURE	bar(g)	0	NG / GUARD :	Flexible / Non-sparking	
9	TEMPERATURE	°C	5-48	FOR MOTORS :	N/A	
10	REL. HUMIDITY	%	65-100	INTAKE FILTER / SILENCER :	Included	
11	OPERATING DENSITY	kg/m3	1.1	INTERCOOLING :	N/A	
12	MOLECULAR MASS	g/mol	28.97	AFTERCOOLER :	N/A	
13	Cp/Cv		1.4	LUBE-OIL COOLER :	Air-cooled	
14	Z		1	LUBE-OIL FILTER :	Included	
15	VISCOSITY	PaS	1.97*10 ⁻⁵	AUTO CONDENSATE TRAP :	N/A	
16	INLET FILTER DIFF. PRESS.	Mbar	10	AIR DRYER :	N/A	
17	DISCHARGE CONDITIONS			NITROGEN GENERATOR :	N/A	
18	PRESSURE	bar(g)	1.41	BLOW-OFF SILENCER :	N/A	
19	FLOW RATE	Nm ³ /h	4226	CONTROL PANEL :	LPS and Junction box	
20	TEMPERATURE	°C	164	VIBRATION MONITOR :	N/A	
21	CONNECTION	ANSI 10" 150# RF		INTERCONNECTING PIPEWORK & VALVES :	N/A	
22	COMP. PERFORMANCE			ACOUSTIC ENCLOSURE :	Included	
23	SPEED	rpm	6253	FOUNDATION BOLTS :	Included	
24	ABSORBED POWER	kW	189	RECEIVER VESSELS :	N/A	
25	TYPE	Oil free screw		LIGHTING :	N/A	
26	DESIGN TEMP/PRESS	°C/bar(g)	-10-230 / 3.2	BASEPLATE :	Included	
27	COMPRESSION RATIO		2.39	FIRST OIL FILLING :	Included	
28	VOL. EFFICIENCY	%	96.6			
29	NOISE @ 1M	dBA	78			
29	DRIVER PERFORMANCE 44C-80005A/B/C-M1			UTILITY SUPPLIES		
30	OPERATING SPEED	rpm	2980	ELECTRICAL SUPPLY :		
31	RATING	kW	250	V	6000	PH 3 Hz 50
32	MANUFACTURER	WEG		V	400	PH 3 Hz 50
33	NO. OF POLES		2	V	230	PH 1 Hz 50
34	DRIVE	DIRECT		COOLING MEDIUM : AIR		
35		NOTE 1		TEMPERATURE: AMBIENT		
36	COOLING METHOD	TEFC		PRESSURE: AMBIENT		
37	SITE CONDITIONS			WEIGHTS AND DIMENSIONS		
38	ELEVATION	m	<1000	COMPRESSOR	kg	2568
39	AMB. TEMPERATURE	°C	5-48	DRIVER	kg	2141
40	AMB. PRESSURE	bar(g)	0	MISCELLANEOUS	kg	TBD
41	REL. HUMIDITY	%	65-100	TOTAL	kg	TBD
42	AREA CLASSIFICATION	Safe area				
43	NOISE LIMITATION	dBA	85	SIZE	mm L X W X H	5500 X 1700 X 1880
44						
45						
46	BEARING HOUSING					
47	CASING			TYPE	ANTI-FRICTION	
48	MATERIAL	EN-GJL-250		BALL / ROLLER	ROLLER	
49	COOLING	AIR-COOLED				
50	DRIVE DIRECTION	CW		LUBRICATION		
51				LUBE SYSTEM :	FORCED LUBRICATION, AIR COOLED	
52				LUBE OIL PUMP DRIVE :	kW	SHAFT DRIVEN
53				SYSTEM OIL CAPACITY	L	TBD
54				LUBE OIL COOLER	AIR-COOLED	
55				LUBE OIL FILTER	INCLUDED	
56				THERMOSTATIC VALVE	YES	
57						
58	TIMING GEARS			STANDARDS AND SPECIFICATIONS		
59	MATERIAL	16 Mn Cr5		mfr. Std.		
60	TYPE	HELICAL, TEETH HARDENED				
61	SEALING			INSTRUMENTATION		
62	SHAFT SEALING TYPE	LABYRINTH		FUNCTION	TYPE(S)	
63	CONVEYING CHAMBER SEAL TYPE	PISTON RING LABYRINTH		COMPRESSOR INLET PRESSURE	GAUGE & TRANSMITTER	
64	SKID / COMPRESSOR CONNECTIONS (ASME B16.5)			COMPRESSOR DISCHARGE TEMPERATURE	TRANSMITTER	
65	NOZZLE	SIZE	RATING	FACING	POSITION	COMPRESSOR DISCHARGE PRESSURE
66						GAUGE & TRANSMITTER
67						COMPRESSOR OIL TEMPERATURE
68	AIR DISCHARGE	10"	150#	RF	TOP	COMPRESSOR OIL PRESSURE
69						GAUGE & TRANSMITTER
70						COMPRESSOR INLET FILTER DIFF.PRESSURE
70						TRANSMITTER
70						COMPRESSOR OIL LEVEL
70						SIGHT GLASS
70						MAIN MOTOR TEMPERATURE (BEARINGS AND WINDINGS)
70						RTD
71	NOTES : 1: FOR MORE INFORMATION ABOUT THE DRIVER REFER TO MOTOR DATASHEET					
72						

MC PR: as a general comment about conveying air compressor suction pressure of all compressor is -0.010 barg(Based on related PFD)

Sazeh RED: Shall be mentioned in next revision.

MCT: ASTM specification for all materials shall be specified in vendor datasheet

Client: Vendor to confirm that timing gear shall be made of forged OR rolled steel (according to API-619 OR ISO 10440-2) with an minimum quality grade 5,6 as per ISO 1328-2.

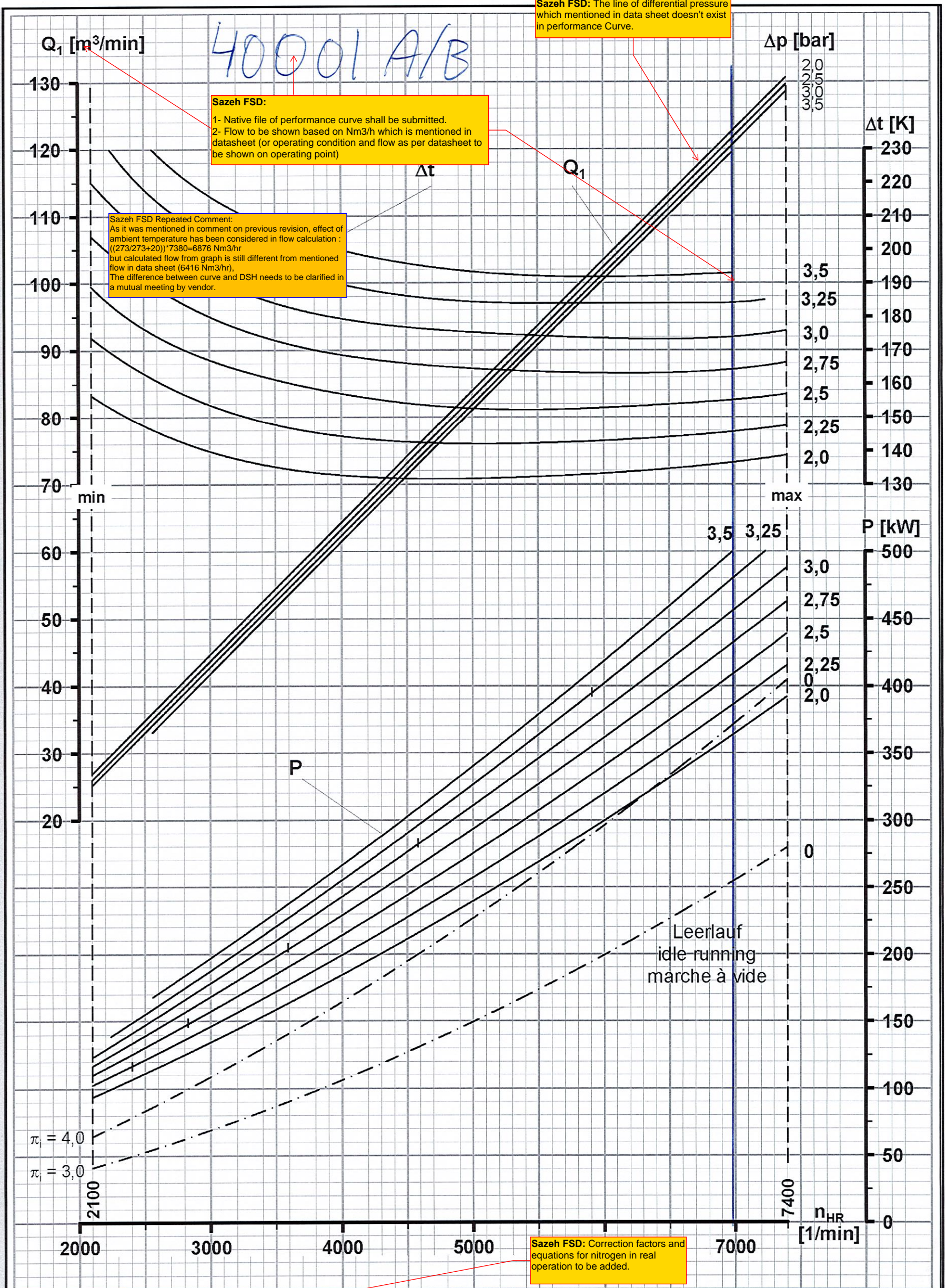
Sazeh RED: Inlet nozzle to be added to connection list.

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<p>Q_1 : Ansaugvolumenstrom (Luft) bei $p_1 = 1,0 \text{ bar}$ und $t_1 = 20^\circ\text{C}$</p> <p>n_{HR} : Hauptrotordrehzahl</p> <p>n_V : Antriebswellendrehzahl</p> <p>P : Leistungsbedarf an der Kupplung</p> <p>Δt : Temperaturerhöhung</p> <p>Δp : Druckerhöhung</p> <p>π_i : Eingebautes Druckverhältnis</p>	<p>intake volume flow (air) at $p_1 = 1.0 \text{ bar}$ and $t_1 = 20^\circ\text{C}$</p> <p>main rotor speed</p> <p>drive shaft speed</p> <p>power required at the coupling</p> <p>temperature rise</p> <p>pressure difference</p> <p>built-in compression ratio</p>	<p>débit aspiré (air) pour $p_1 = 1,0 \text{ bar}$ et $t_1 = 20^\circ\text{C}$</p> <p>vitesse du rotor principal</p> <p>vitesse de l'arbre d'entraînement</p> <p>puissance absorbée à l'accouplement</p> <p>élévation de température</p> <p>pression différentielle</p> <p>rapport de compression interne</p>
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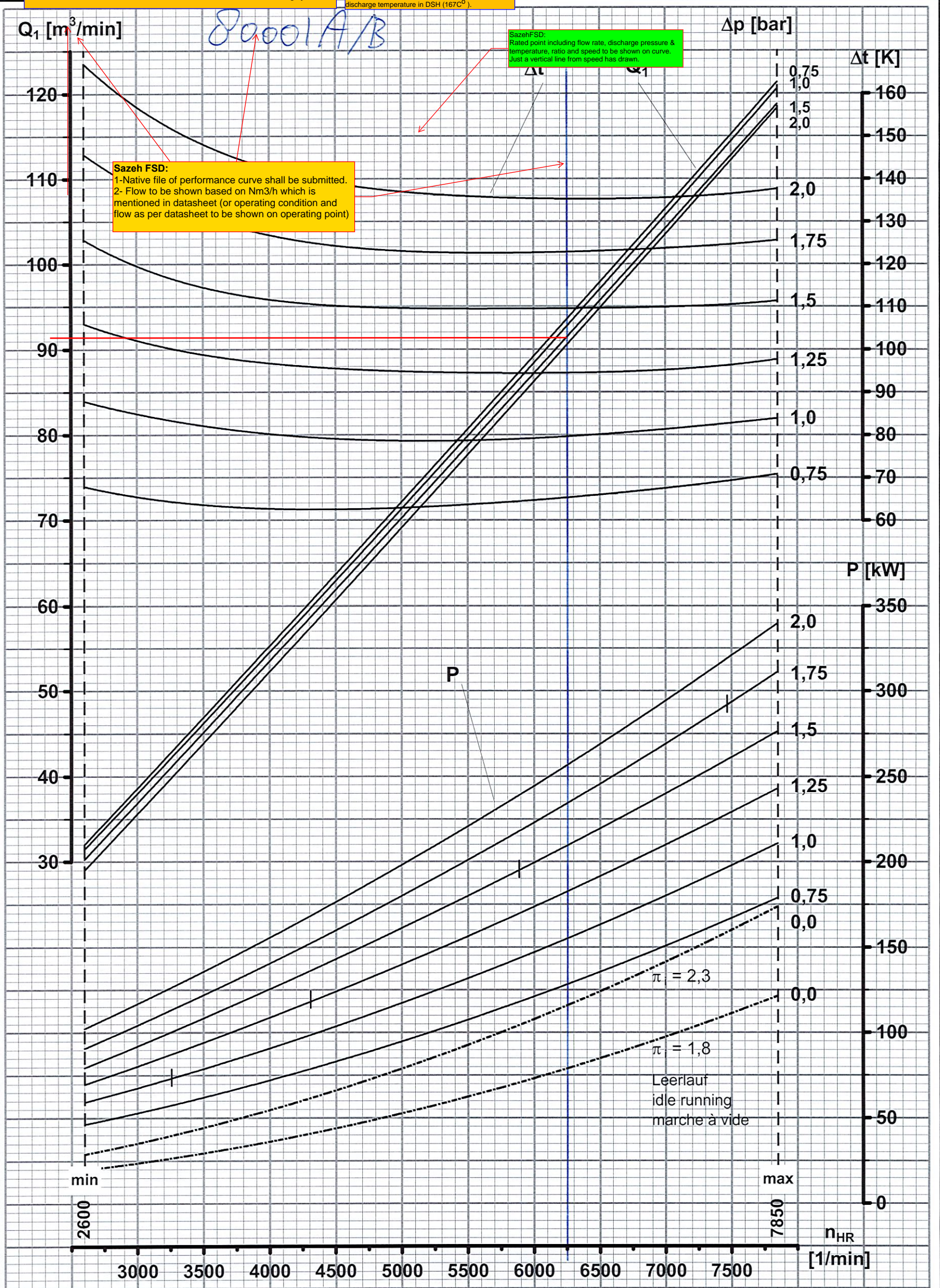
Leistungsdiagramm - Überdruck - für Schraubenverdichterstufe
 performance diagram - overpressure - for screw compressor stage
 courbes de fonctionnement - fonctionnement en pression - pour étage de compresseur à vis

$n_V / n_{HR} = i$	TRD/Evers 11/2017	VM 100 V2-882 4000661586
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Sazeh FSD
As it was mentioned in comment on previous revision, effect of ambient temperature has been considered in flow calculation:
@ main rotor speed=6253 rpm and $\Delta P=1.46-1.5$ bar
Based on this curve:
 $Q_1=91.5 \text{ m}^3/\text{min}=5490 \text{ m}^3/\text{hr} = ((273/273+20)) \cdot 5490 = 5115 \text{ Nm}^3/\text{hr}$
but calculated flow from graph is still different from mentioned flow in data sheet (4247 Nm³/hr).
The difference between curve and DSH needs to be clarified in a mutual meeting by vendor.

ASPC repeated Process comment (this comment has been missed by vendor to add to TCL for reply):
@ main rotor speed=6253 rpm and $\Delta P=1.46-1.5$ bar
Based on this curve:
 $\Delta t=109-110 \rightarrow T_{\text{dis}}=48+110=158^\circ\text{C}$
but discharge temperature has discrepancy with discharge temperature in DSH (167°C).



Q_1 : Ansaugvolumenstrom (Luft) bei $p_1 = 1,0$ bar und $t_1 = 20^\circ\text{C}$	intake volume flow (air) at $p_1 = 1.0$ bar and $t_1 = 20^\circ\text{C}$	débit aspiré (air) pour $p_1 = 1,0$ bar et $t_1 = 20^\circ\text{C}$
n_{HR} : Hauptrotordrehzahl	main rotor speed	vitesse du rotor principal
n_V : Verdichterwellendrehzahl	compressor shaft speed	vitesse de l'arbre du compresseur
P : Leistungsbedarf an der Kupplung	power required at the coupling	puissance absorbée à l'accouplement
Δt : Temperaturerhöhung	temperature rise	élévation de température
Δp : Druckerhöhung	pressure difference	pression différentielle
π_i : Eingebautes Druckverhältnis	built-in compression ratio	rapport de compression interne

Leistungsdiagramm - **Überdruck** - für Schraubenverdichterstufe
performance diagram - **overpressure** - for screw compressor stage
courbes de fonctionnement - **fonctionnement en pression** - pour étage de compresseur à vis

VML 95

$n_V / n_{HR} = i$	10/2007	V2 - 880 - a
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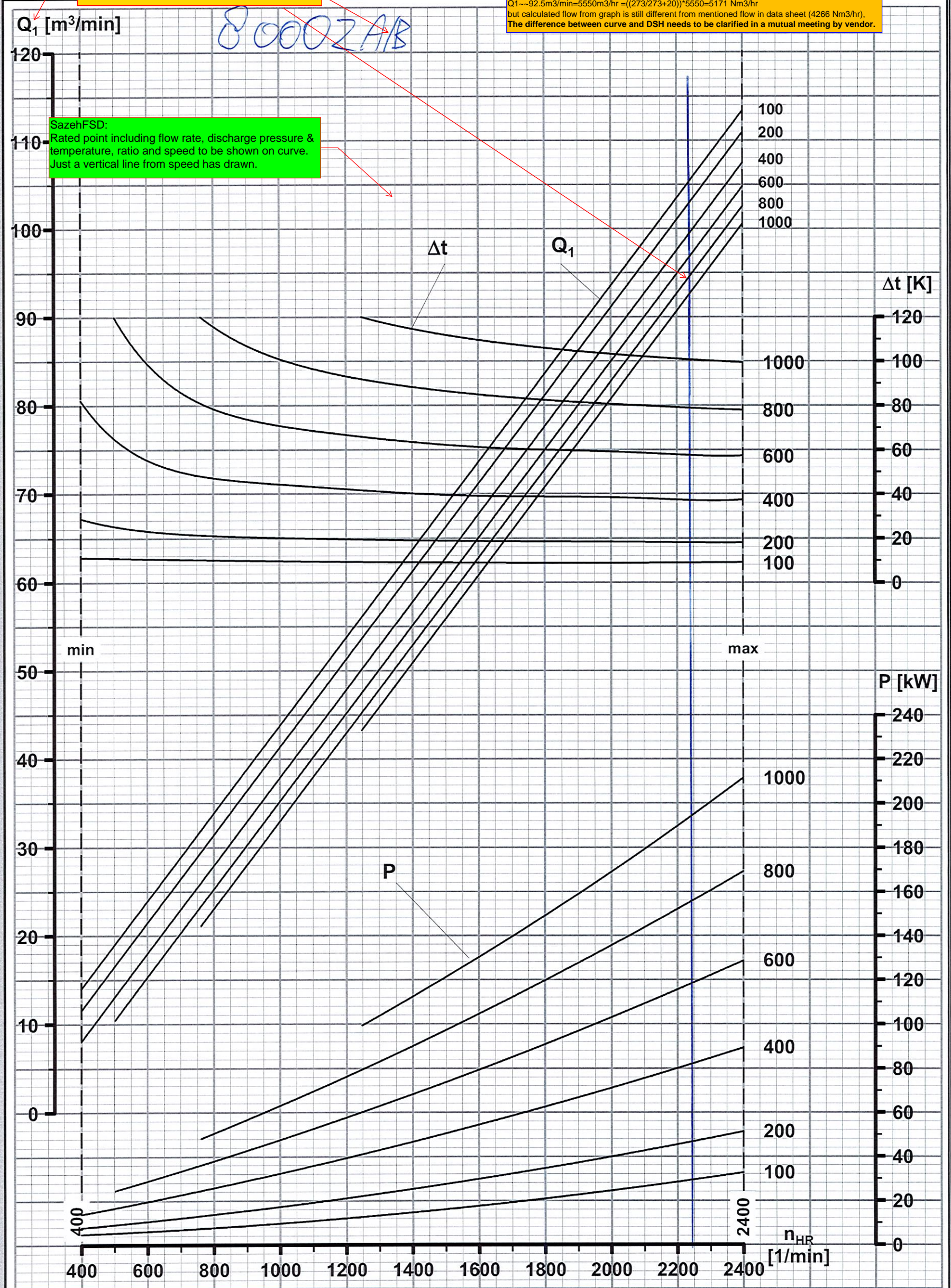
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Sazeh FSD:
 1- Native file of performance curve shall be submitted.
 2- Flow to be shown based on Nm³/h which is mentioned in datasheet (or operating condition and flow as per datasheet to be shown on operating point)

ASPC Process:
 As it was mentioned in comment on previous revision, effect of ambient temperature has been considered in flow calculation :
 @ main rotor speed=2244 rpm and ΔP=970 mbar
 Based on this curve:
 Q1--92.5m³/min=5550m³/hr =((273/273+20))*5550=5171 Nm³/hr
 but calculated flow from graph is still different from mentioned flow in data sheet (4266 Nm³/hr).
The difference between curve and DSH needs to be clarified in a mutual meeting by vendor.



Q_1 : Ansaugvolumenstrom (Luft)
 bei $p_1 = 1,0$ bar und $t_1 = 20^\circ C$
 n_{HR} : Hauptrotordrehzahl
 n_V : Antriebswellendrehzahl
 P : Leistungsbedarf an der Kupplung
 Δt : Temperaturerhöhung
 Δp : Druckerhöhung

intake volume flow (air)
 at $p_1 = 1.0$ bar and $t_1 = 20^\circ C$
 main rotor speed
 drive shaft speed
 power required at the coupling
 temperature rise
 pressure difference

débit aspiré (air)
 pour $p_1 = 1,0$ bar et $t_1 = 20^\circ C$
 vitesse du rotor principal
 vitesse de l'arbre d'entraînement
 puissance absorbée à l'accouplement
 élévation de température
 pression différentielle

Leistungsdiagramm - Überdruck - für Drehkolbengebläsestufe
 performance diagram - overpressure - for stage of rotary piston blower
 courbes de fonctionnement - fonctionnement en pression - pour étage de surpresseur à pistons rotatifs

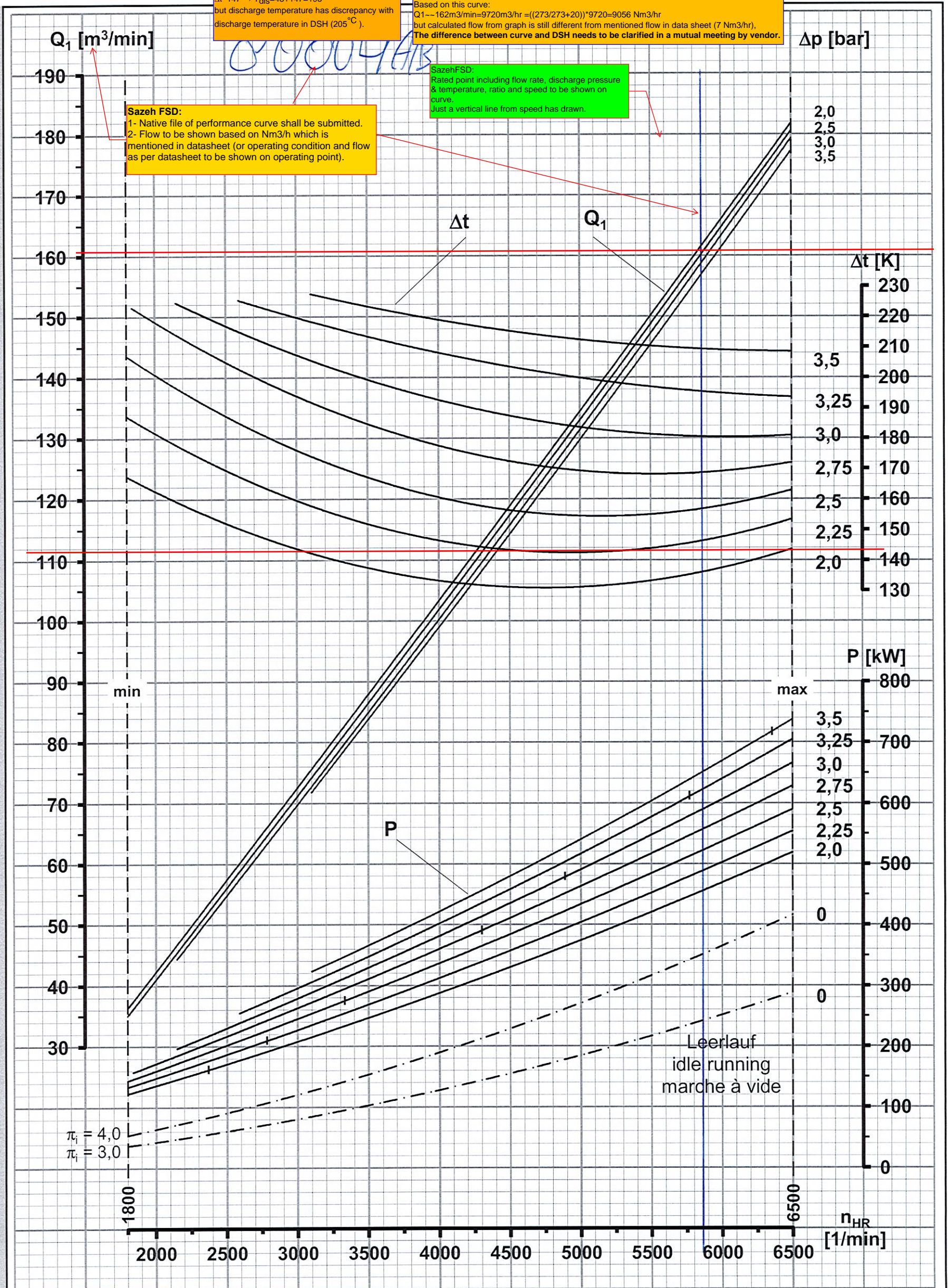
GM 100 S

$n_V / n_{HR} = 1$	03/2020 TRD / Evers	4000556899
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ASPC Process:
 @ main rotor speed=5860 rpm and ΔP=2.2 bar
 Based on this curve:
 Δt=147 → T_{dis}=48+147=195 °C
 but discharge temperature has discrepancy with
 discharge temperature in DSH (205 °C).

ASPC Process:
 As it was mentioned in comment on previous revision, effect of ambient temperature has been
 considered in flow calculation:
 @ main rotor speed=5860 rpm and ΔP=2.2 bar
 Based on this curve:
 Q1--162m³/min=9720m³/hr =((273/273+20))*9720=9056 Nm³/hr
 but calculated flow from graph is still different from mentioned flow in data sheet (7 Nm³/hr),
 The difference between curve and DSH needs to be clarified in a mutual meeting by vendor.

Sazeh FSD:
 1- Native file of performance curve shall be submitted.
 2- Flow to be shown based on Nm³/h which is
 mentioned in datasheet (or operating condition and flow
 as per datasheet to be shown on operating point).

Sazeh FSD:
 Rated point including flow rate, discharge pressure
 & temperature, ratio and speed to be shown on
 curve.
 Just a vertical line from speed has drawn.

Q₁ : Ansaugvolumenstrom (Luft)
 bei p₁ = 1,0 bar und t₁ = 20°C
 n_{HR} : Hauptrotordrehzahl
 n_V : Antriebswellendrehzahl
 P : Leistungsbedarf an der Kupplung
 Δt : Temperaturerhöhung
 Δp : Druckerhöhung
 π_i : Eingebautes Druckverhältnis

intake volume flow (air)
 at p₁ = 1.0 bar and t₁ = 20°C
 main rotor speed
 drive shaft speed
 power required at the coupling
 temperature rise
 pressure difference
 built-in compression ratio

débit aspiré (air)
 pour p₁ = 1,0 bar et t₁ = 20°C
 vitesse du rotor principal
 vitesse de l'arbre d'entraînement
 puissance absorbée à l'accouplement
 élévation de température
 pression différentielle
 rapport de compression interne

Leistungsdiagramm - **Überdruck** - für Schraubenverdichterstufe
 performance diagram - **overpressure** - for screw compressor stage
 courbes de fonctionnement - **fonctionnement en pression** - pour étage de compresseur à vis

VM 140

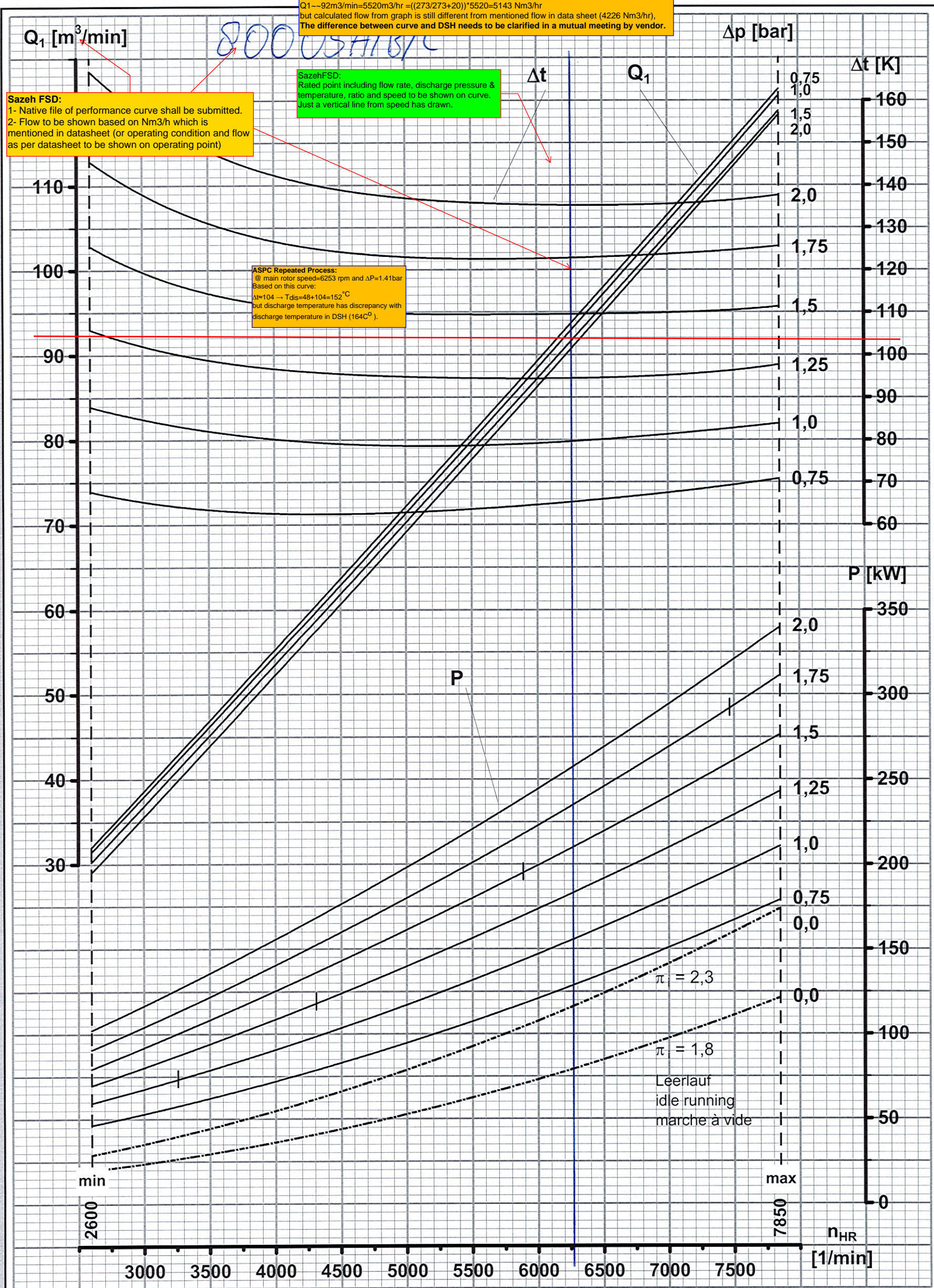
$n_V / n_{HR} = i$

06/2015

V2 - 886
 SAP 4000123754



ASPC Process:
As it was mentioned in comment on previous revision, effect of ambient temperature has been considered in flow calculation :
@ main rotor speed=6253 rpm and ΔP=1.41 bar
Based on this curve:
Q1 → 92m³/min=5520m³/hr = ((273/273+20) * 5520 = 5143 Nm³/hr
but calculated flow from graph is still different from mentioned flow in data sheet (4226 Nm³/hr),
The difference between curve and DSH needs to be clarified in a mutual meeting by vendor.



Q ₁ : Ansaugvolumenstrom (Luft) bei p ₁ = 1,0 bar und t ₁ = 20°C	intake volume flow (air) at p ₁ = 1.0 bar and t ₁ = 20°C	débit aspiré (air) pour p ₁ = 1,0 bar et t ₁ = 20°C
n _{HR} : Hauptrotordrehzahl	main rotor speed	vitesse du rotor principal
n _V : Verdichterwellendrehzahl	compressor shaft speed	vitesse de l'arbre du compresseur
P : Leistungsbedarf an der Kupplung	power required at the coupling	puissance absorbée à l'accouplement
Δt : Temperaturerhöhung	temperature rise	élévation de température
Δp : Druckerhöhung	pressure difference	pression différentielle
π _i : Eingebautes Druckverhältnis	built-in compression ratio	rapport de compression interne

Leistungsdiagramm - Überdruck - für Schraubenverdichterstufe
performance diagram - overpressure - for screw compressor stage
courbes de fonctionnement - fonctionnement en pression - pour étage de compresseur à vis

VML 95

$n_V / n_{HR} = i$	10/2007	V2 - 880 - a
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