



ASPC Project



END CUSTOMER	: Arya Sasol Polymer Company
CONTRACTOR	: DYPNF Co., Ltd.
VENDOR NAME	: Airpack Netherlands BV
EQUIPMENT DESCRIPTION	: Screw Compressor & Roots Blower Package
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

SazehRED Important Comment:

1- Most of comments on this file are repeated comment. In order to solving this problem by DYPNF we held a meeting by Airpack at 2025.7.29.
But again DYPNF sent document with low quality and not considering our comments.
It has time impact for our project. Please stop sending same docs without implementing our comments and have a rechecking on documents in this regard before sending them to us!
2- Attached TCL is not correct as we had Meeting conclusion on Last Rev of doc. In same cases; add that file. We added Correct file.

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		04 Sep 2025
<input type="checkbox"/>	Code 3 No Comments - Work may proceed.		
<input type="checkbox"/>	Code 4 Information only - Review not required.		

03	Issued for Approval	08-08-2025	SC	KP	JJ
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: 08/08/2025

DOC NO.: 23383-11B COMPRESSOR DATA SHEET

REV. 02

PAGE: 3 of 4

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	
16	VISCOSITY	PaS	1.92*10⁻⁵	AUTO CONDENSATE TRAP:	N/A	
17	DISCHARGE CONDITIONS			AIR DRYER:	N/A	
18	PRESSURE	bar(g)	1.89	NITROGEN GENERATOR:	N/A	
19	FLOW RATE	Nm³/h	6416	BLOW-OFF SILENCER:	N/A	
20	TEMPERATURE	°C	189	CONTROL PANEL:	LPS and Junction box	
21	CONNECTION		ANSI 10" 150# RF	VIBRATION MONITOR:	N/A	
22	COMP. PERFORMANCE			INTERCONNECTING PIPEWORK & VALVES :	N/A	
23	SPEED	rpm	6994	ACOUSTIC ENCLOSURE:	Included	
24	ABSORBED POWER	kW	356	FOUNDATION BOLTS:	Included	
25	TYPE		Oil free screw	RECEIVER VESSELS:	N/A	
26	DESIGN TEMP/PRESS	°C/bar(g)	-10-280 / 5	LIGHTING:	N/A	
27	COMPRESSION RATIO		2.73	BASEPLATE	Included	
28	VOL. EFFICIENCY	%	99.8	FIRST OIL FILLING	Included	
	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 : AIR		
35			NOTE 1	TEMPERATURE: AMBIENT		
36	COOLING METHOD		TEFC	PRESSURE: AMBIENT		
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	5380
41	REL. HUMIDITY	%	65-100	TOTAL	kg	+/- 13200
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						
45						
46						
47	CASING			BEARING HOUSING		
48	MATERIAL		EN-GJL-250 / ASTM A48	TYPE	ANTI-FRICTION	
49	COOLING		AIR-COOLED	BALL / ROLLER	ROLLER	
50	DRIVE DIRECTION		CW	LUBRICATION		
51				LUBE SYSTEM :	FORCED LUBRICATION, AIR COOLED	
52				LUBE OIL PUMP DRIVE :	kW	SHAFT DRIVEN
53	ROTORS				L	70
54	NO. OF LOBES MALE		4			AIR-COOLED
55	NO. OF LOBES FEMALE		6			INCLUDED
56	MATERIAL		C45N / AISI 1045	THERMOSTATIC VALVE		YES
57						
58	TIMING GEARS			SPECIFICATIONS		
59	MATERIAL		16 Mn Cr5 / ASTM A29	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
65	SKID / COMPRESSOR CONNECTIONS (ASME B16.5)			COMPRESSOR DISCHARGE TEMPERATURE		TRANSMITTER
66	NOZZLE	SIZE	RATING	FACING	POSITION	COMPRESSOR DISCHARGE PRESSURE
67	NITROGEN INLET	12"	150#	RF	TOP	GAUGE & TRANSMITTER
68	NITROGEN DISCHARGE	10"	150#	RF	TOP	TRANSMITTER
69	PSV OUTLET	6"	150#	RF	TOP	GAUGE & TRANSMITTER
70						COMPRESSOR OIL PRESSURE
70						COMPRESSOR ENCLOSURE TEMPERATURE
70						COMPRESSOR OIL LEVEL
70						SIGHT GLASS
70						MAIN MOTOR TEMPERATURE (BEARINGS AND WINDINGS)
71	NOTES : 1: FOR MORE INFORMATION ABOUT THE DRIVER REFER TO MOTOR DATASHEET					
72						

EED: Discrepancy with Doc. No.: 3944-VD-0171-DYP-RE-400-LST-0100; Rev. 01 (440KW).

MCT Comment: Complete designation shall be specified. (e.g. ASTM A48 Class 40) Meeting conclusion date 2025.7.29: AIRPACK confirmed to add ASTM equivalent to each Material (See attached).

MCT: It is AISI material. ASTM equivalent shall be specified. Meeting conclusion date 2025.7.29: AIRPACK confirmed to add ASTM equivalent to each Material (See attached).

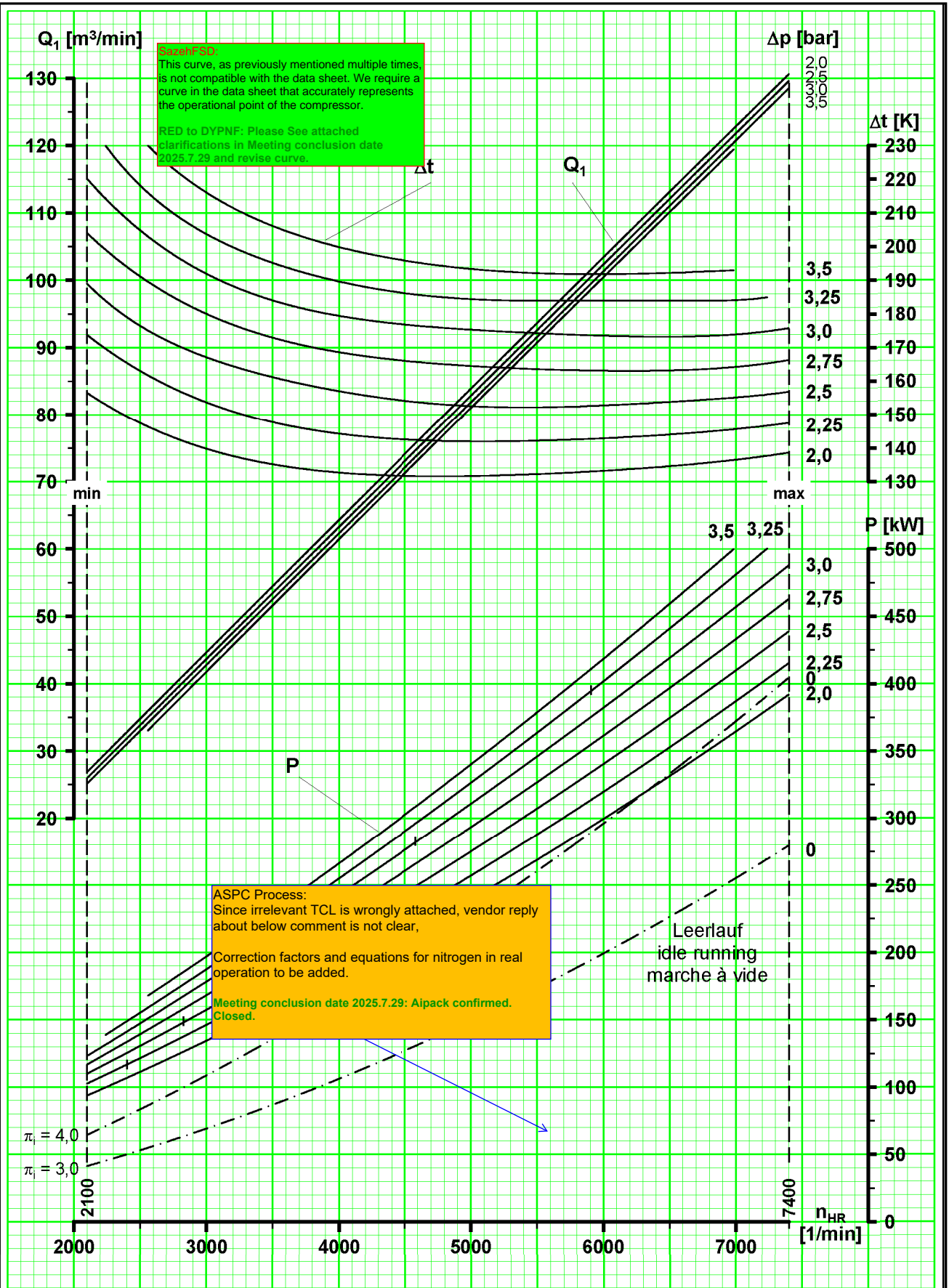
MCT: ASTM A29 is a general specification, not product specification. Please specify proper ASTM standard. Meeting conclusion date 2025.7.29: AIRPACK confirmed to add ASTM equivalent to each Material (See attached).

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AERZEN



Q_1 : Ansaugvolumenstrom (Luft)
 bei $p_1 = 1,0$ bar und $t_1 = 20^\circ\text{C}$

n_{HR} : Hauptrotordrehzahl

n_V : Antriebswellendrehzahl

P : Leistungsbedarf an der Kupplung

Δt : Temperaturerhöhung

Δp : Druckerhöhung

π_1 : Eingebautes Druckverhältnis

intake volume flow (air)
 at $p_1 = 1.0$ bar and $t_1 = 20^\circ\text{C}$

main rotor speed

drive shaft speed

power required at the coupling

temperature rise

pressure difference

built-in compression ratio

débit aspiré (air)
 pour $p_1 = 1,0$ bar et $t_1 = 20^\circ\text{C}$

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 100

$n_V / n_{HR} = i$

TRD/Evers
 11/2017

V2-882
 4000661586



300 KT polyethylene plant project (ASPC)



DATE: 08/08/2025

DOC NO.: 23383-11B COMPRESSOR DATA SHEET

REV. 02

PAGE: 3 of 4

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/m ³	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	
	VISCOSITY	PaS	1.97*10⁻⁵		
16	INLET FILTER DIFF. PRESS.	Mbar	10	AUTO CONDENSATE TRAP: N/A	
17	DISCHARGE CONDITIONS			AIR DRYER: N/A	
18	PRESSURE	bar(g)	1.46	NITROGEN GENERATOR: N/A	
19	FLOW RATE	Nm ³ /h	4247	BLOW-OFF SILENCER: N/A	
20	TEMPERATURE	°C	167	CONTROL PANEL: LPS and Junction box	
21	CONNECTION		ANSI 10" 150#	VIBRATION MONITOR: N/A	
22	COMP. PERFORMANCE			RECONNECTING PIPEWORK & VALVES : N/A	
23	SPEED	rpm	6253	ACOUSTIC ENCLOSURE: Included	
24	ABSORBED POWER	kW	195	FOUNDATION BOLTS: Included	
25	TYPE		Oil free screw	RECEIVER VESSELS: N/A	
26	DESIGN TEMP/PRESS	°C/bar(g)	-10-230 / 3.2	LIGHTING: N/A	
27	COMPRESSION RATIO		2.44	BASEPLATE Included	
28	VOL. EFFICIENCY	%	96.6	FIRST OIL FILLING Included	
	NOISE @ 1M	dB(A)	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 : 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 4141
41	REL. HUMIDITY	%	65-100	TOTAL	kg +/- 8850
42	AREA CLASSIFICATION		Safe area		
43	NOISE LIMITATION	dB(A)	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 / ASTM A48	BALL / ROLLER	ROLLER
49	COOLING		AIR-COOLED		
50	DRIVE DIRECTION		CW	LUBRICATION	
51				LUBE SYSTEM :	FORCED LUBRICATION, AIR COOLED
52				LUBE OIL PUMP DRIVE :	SHAFT DRIVEN
53	ROTORS			SYSTEM OIL CAPACITY	L 30
54	NO. OF LOBES MALE		3	LUBE OIL COOLER	AIR-COOLED
55	NO. OF LOBES FEMALE		4	LUBE OIL FILTER	INCLUDED
56	MATERIAL		C45N / AISI 1045	THERMOSTATIC VALVE	YES
57				STANDARDS AND SPECIFICATIONS	
58	TIMING GEARS			Compressor: Mfr. Std.	
59	MATERIAL		16 Mn Cr5 / ASTM A29		
60	TYPE		HELICAL, TEETH HARDENED		
61	SEALING			INSTRUMENTATION	
62	SHAFT SEALING TYPE		LABYRINTH	FUNCTION	TYPE(S)
63				COMPRESSOR INLET PRESSURE	GAUGE & TRANSMITTER
65	SKID / COMPRESSOR CONNECTIONS (ASME B16.5)			COMPRESSOR DISCHARGE TEMPERATURE	TRANSMITTER
66	NOZZLE	SIZE	RATING	FACING	POSITION
67					
68	AIR DISCHARGE	10"	150#	RF	TOP
69				COMPRESSOR DISCHARGE PRESSURE	GAUGE & TRANSMITTER
70				COMPRESSOR OIL TEMPERATURE	TRANSMITTER
70				COMPRESSOR OIL PRESSURE	GAUGE & TRANSMITTER
70				COMPRESSOR INLET FILTER DIFF.PRESSURE	TRANSMITTER
70				COMPRESSOR OIL LEVEL	SIGHT GLASS
70				MAIN MOTOR TEMPERATURE (BEARINGS AND WINDINGS)	RTD
71	NOTES : 1: FOR MORE INFORMATION ABOUT THE DRIVER REFER TO MOTOR DATASHEET				
72					

MCT Repeated CM: as a general comment about conveying air compressor suction pressure of all compressor is -0.010 barg(Based on related PFD)
Meeting conclusion date 2025.7.29: AIRPACK confirmed, Closed.

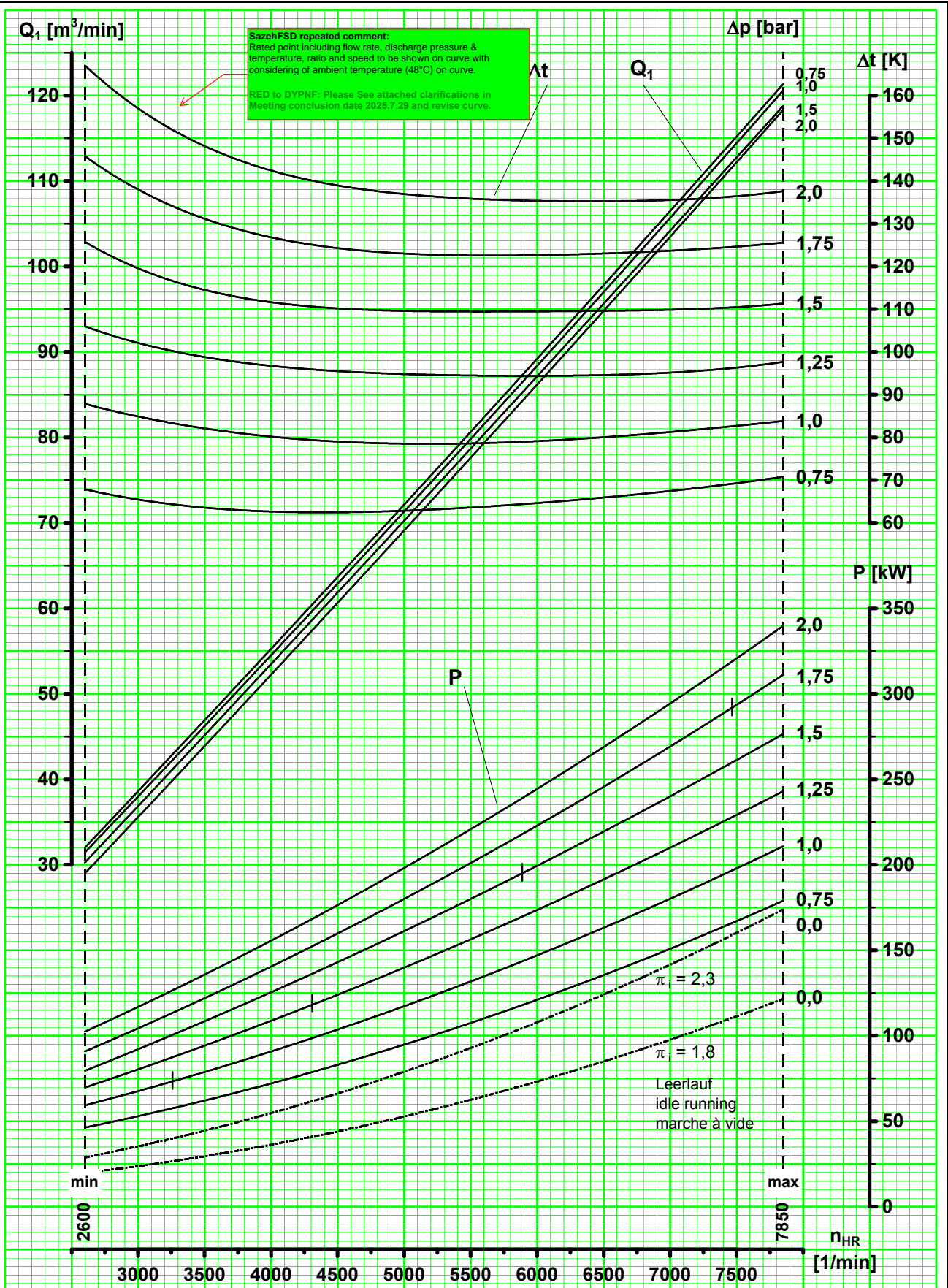
SazehFSD Repeated comment: Since the discharge pressure is not consistent with mentioned value in PFD, vendor to add a note that compressor discharge pressure is based on calculated pressure drop in detail calculation with margin. Also margin to be specified.
DY: Please refer to "Detail Calculation of Conveying Line", 107% is specified.
SazehFSD: Please add a note also in data sheet to indicate margin considering (107%) compared to PFD value.

MCT: Complete designation shall be specified, (e.g. ASTM A48 Class 40)
Meeting conclusion date 2025.7.29: AIRPACK confirmed to add ASTM equivalent to each Material (See attached).

MCT: It is AISI material, ASTM equivalent shall be specified.
Meeting conclusion date 2025.7.29: AIRPACK confirmed to add ASTM equivalent to each Material (See attached).

MCT: ASTM A29 is a general specification, not product specification. Please specify proper ASTM standard.
Meeting conclusion date 2025.7.29: AIRPACK confirmed to add ASTM equivalent to each Material (See attached).

SazehRED Repeated Comment: Inlet nozzle to be added to connection list.
Meeting conclusion date 2025.7.29: Airpack confirmed to add size of Inlet Duct in Next Revision.



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

VML 95

$n_V / n_{HR} = i$	10/2007	V2 - 880 - a
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300 KT polyethylene plant project (ASPC)



DATE: 08/08/2025

DOC NO.: 23383-11B COMPRESSOR DATA SHEET

REV. 02

PAGE: 3 of 4

1	VENDOR (COMPRESSOR) :	Airpack Netherlands B.V.			REFERENCE :	23383-COM		
2	TYPE / MODEL :	Aerzen GM100S			SERIAL NO. :	T-2025-00808/00809		
3	SERVICE :	Roots Blower			RATION :	Semi-Continuous		
4	QUANTITY :	2 (1+1)			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*10A-5		AUTO CONDENSATE TRAP :	N/A		
16	INLET FILTER DIFF. PRESS.	Mbar	10		AIR DRYER :	N/A		
17	DISCHARGE CONDITIONS				OGEN GENERATOR :	N/A		
18	PRESSURE	bar(g)	0.97		OW-OFF SILENCER :	N/A		
19	FLOW RATE	Nm³/h	4266		CONTROL PANEL :	LPS and Junction box		
20	TEMPERATURE	°C	154		RATION MONITOR :	N/A		
21	CONNECTION		ANSI 10" 150# RF		EWORK & VALVES :	N/A		
22	COMP. PERFORMANCE				USTIC ENCLOSURE :	Included		
23	SPEED	rpm	2244		FOUNDATION BOLTS :	Included		
24	ABSORBED POWER	kW	193		RECEIVER VESSELS :	N/A		
25	TYPE		Positive Displacement		LIGHTING :	N/A		
26	DESIGN TEMP/PRESS	°C/bar(g)	-10-155 / 2.1		BASEPLATE :	Included		
27	COMPRESSION RATIO		1.95		FIRST OIL FILLING :	Included		
28	VOL. EFFICIENCY	%	96.7					
29	NOISE @ 1M	dBA	81					
30	DRIVER PERFORMANCE 44C-80002A/B-M1				UTILITY SUPPLIES			
31	OPERATING SPEED	rpm	1488		ELECTRICAL SUPPLY :			
32	RATING	kW	250		V	6000	PH	3
33	MANUFACTURER		WEG		V	400	PH	3
34	NO. OF POLES		4		V	230	PH	1
35	DRIVE		V-BELT		COOLING MEDIUM :			
36	COOLING METHOD		TEFC		TEMPERATURE :			
37	SITE CONDITIONS				WEIGHTS AND DIMENSIONS			
38	ELEVATION	m	<1000		BLOWER	kg	1008	
39	AMB. TEMPERATURE	°C	5-48		DRIVER	kg	2235	
40	AMB. PRESSURE	bar(g)	0		MISCELLANEOUS	kg	497	
41	REL. HUMIDITY	%	65-100		TOTAL	kg	+/- 3740	
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	CASING				BEARING HOUSING			
47	MATERIAL		EN-GJL-250 / ASTM A48		TYPE	ANTI-FRICTION		
48	COOLING		AIR-COOLED		BALL / ROLLER	ROLLER		
49	DRIVE DIRECTION		CW		LUBRICATION			
50					SYSTEM :	OIL SPLASH LUBRICATION		
51					OIL PUMP DRIVE :	kW	N/A	
52					SYSTEM OIL CAPACITY	L	12.5	
53	ROTORS/SHAFT				LUBE OIL COOLER		AIR-COOLED	
54	NO. OF LOBES MALE		3		LUBE OIL FILTER		INCLUDED	
55	NO. OF LOBES FEMALE		3		THERMOSTATIC VALVE		N/A	
56	MATERIAL		EN-GJS-500-7 / ASTM A536					
57								
58	TIMING GEARS				STANDARDS AND SPECIFICATIONS			
59	MATERIAL		16 Mn Cr5 / ASTM A29		BI			
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								
71	NOTES : 1: FOR MORE INFORMATION ABOUT THE DRIVER REFER TO MOTOR DATASHEET							
72								

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

ASPC PFD repeated comment:
The discharge pressure is not consistent with mentioned value in PFD, vendor to add a note that compressor discharge pressure is based on calculated pressure drop in detail calculation with margin. Also, change to the specified.
DY: Please refer to "Detail Calculation of Conveying Line", 107% is specified.
SazehFSD: Please add a note also in data sheet to specify margin considering (107%) compare to PFD value.

ASPC Process repeated comment:
C-80002 is a positive displacement root type blower, and that pressure rise mainly occurs in the downstream piping, not within the casing block itself. However, the discharge gas temperature at the blower outlet nozzle is the governing parameter for material selection in contact with process gas.
Industry practice is to set the equipment design temperature ≥ (maximum predicted discharge temperature + 10-20 °C margin), regardless of compressor type, to account for off-design operation or upset scenarios.
Also, in our existing plants, two Roots-type blowers of the same brand and model have a -40 °C margin between discharge temperature and design temperature.
Therefore, the basis for considering only 155 °C as the design temperature (vs. 154 °C operating) is not acceptable. Please revise it.
RED Hint to DYPNF: This comment is Major and shall not be missed.

MCT repeated comment:
Complete designation shall be specified. (e.g. ASTM A48 Class 40)
Meeting conclusion date 2025.7.29: AIRPACK confirmed to add ASTM equivalent to each Material.

MCT repeated comment:
Complete designation shall be specified. (e.g. ASTM A536 Grade 70-50-05)
Meeting conclusion date 2025.7.29: AIRPACK confirmed to add ASTM equivalent to each Material.

MCT repeated comment:
ASTM A29 is a general specification, not product specification. Please specify proper ASTM standard.
Meeting conclusion date 2025.7.29: AIRPACK confirmed to add ASTM equivalent to each Material.

SazehFSD:
There is no lube oil consideration for blower 44C-80002A/B as per P&ID. Vendor to recheck and modify.

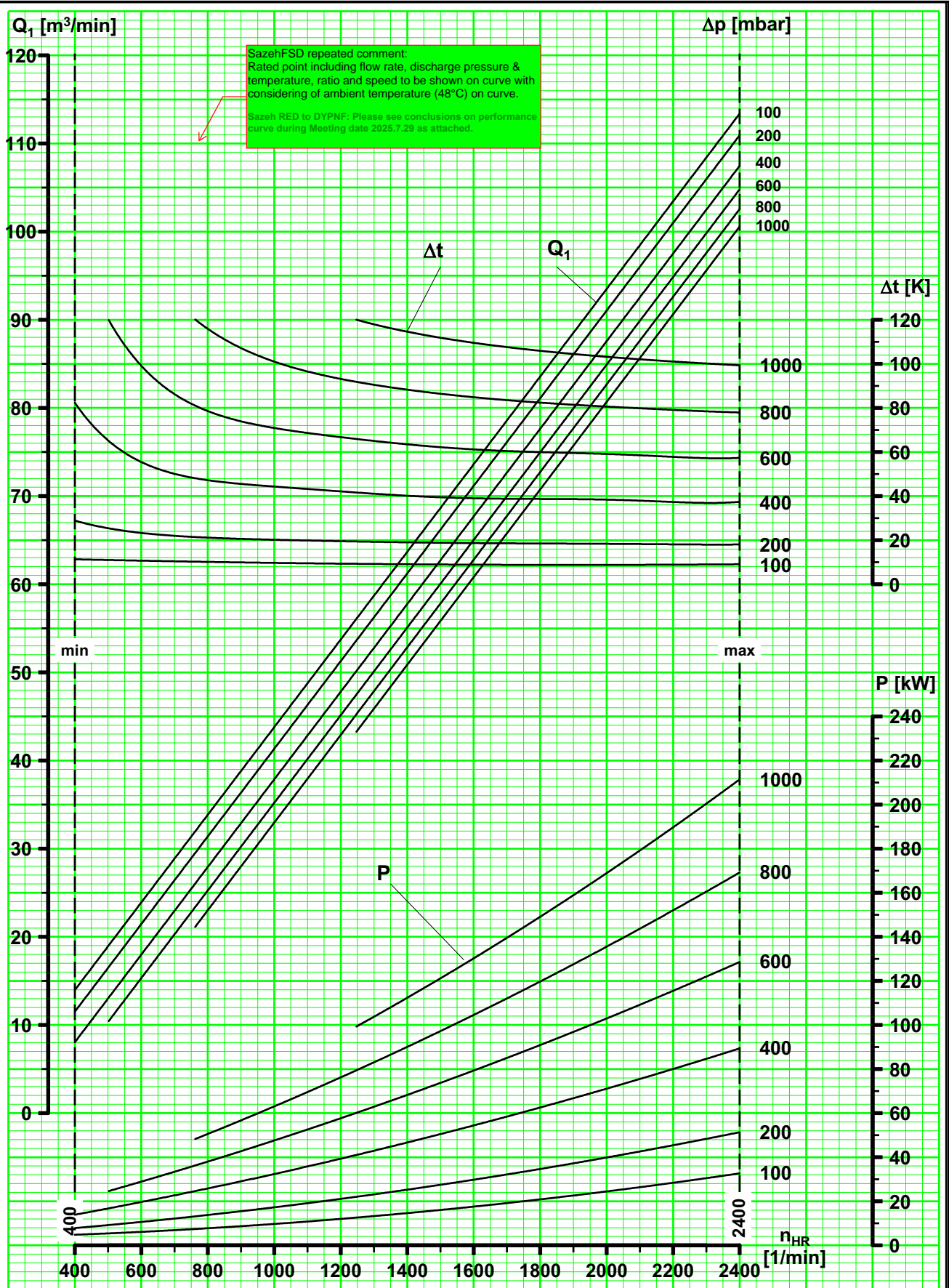
SazehFSD:
There is no lube oil cooler and filter for blower 44C-80002A/B as per P&ID. Vendor to recheck and modify.

SazehRED repeated Comment:
Inlet nozzle to be added to connection list.
Meeting conclusion date 2025.7.29: Airpack confirmed to add size of Inlet Duct in Next Revision.

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Aerzener Maschinenfabrik GmbH

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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

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

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

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



300 KT polyethylene plant project (ASPC)



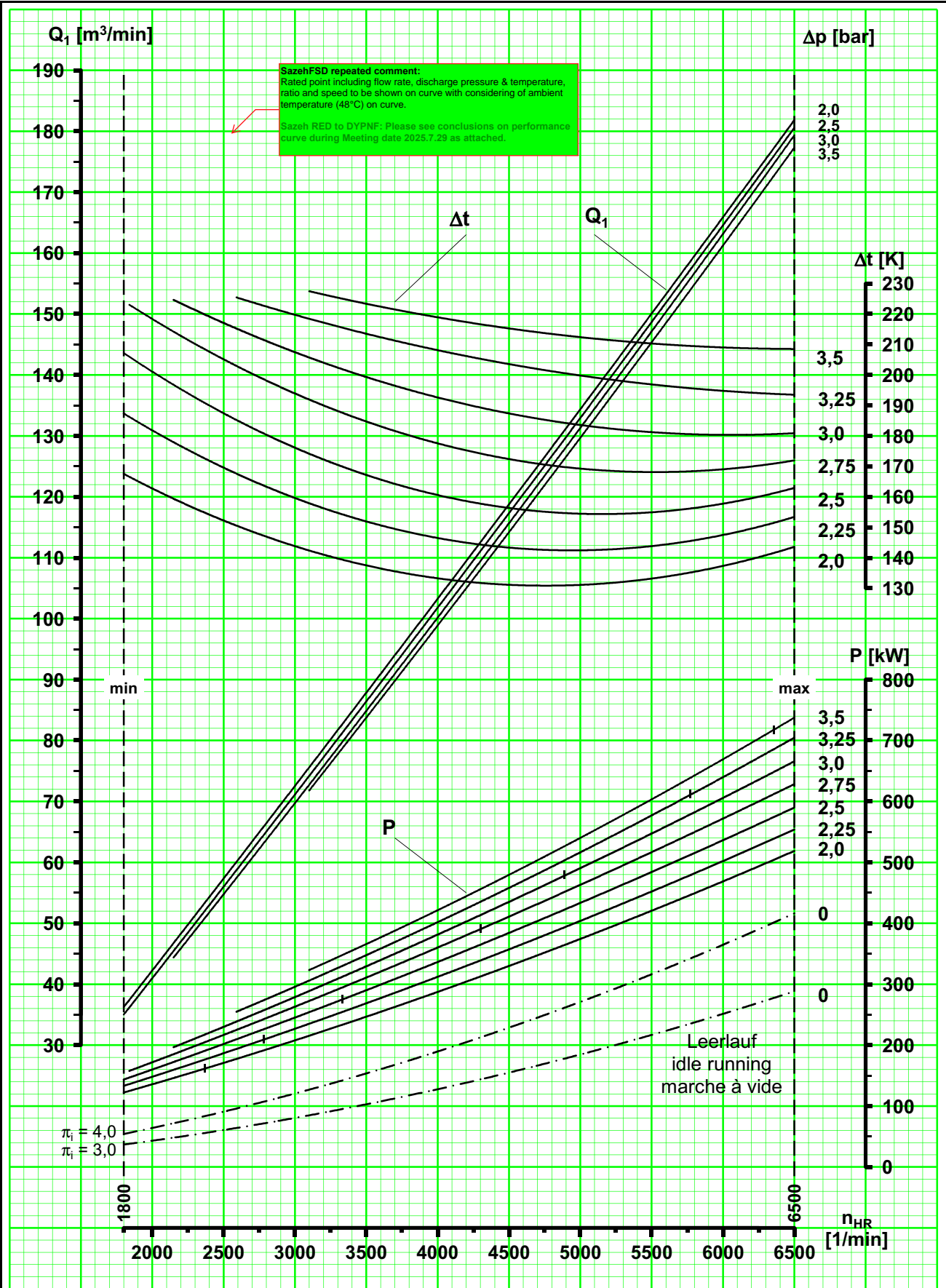
DATE: 08/08/2025

DOC NO.: 23383-11B COMPRESSOR DATA SHEET

REV. 02

PAGE: 3 of 4

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		MC: Repeated CM: as a general comment about conveying air compressor suction pressure of all compressor is -0.010 barg (Based on related PFD)		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		
16	VISCOSITY	PaS	1.97*10⁻⁵	AUTO CONDENSATE TRAP: N/A		
17	DISCHARGE CONDITIONS			AIR DRYER: N/A		
18	PRESSURE	bar(g)	2.2	NITROGEN GENERATOR: N/A		
19	FLOW RATE	Nm ³ /h	7339	BLOW-OFF SILENCER: N/A		
20	TEMPERATURE	°C	205	CONTROL PANEL: LPS and Junction box		
21	CONNECTION		ANSI 10" 150	VIBRATION MONITOR: N/A		
22	COMP. PERFORMANCE			TERCONNECTING PIPEWORK & VALVES : N/A		
23	SPEED	rpm	5860	ACOUSTIC ENCLOSURE: Included		
24	ABSORBED POWER	kW	479	FOUNDATION BOLTS: Included		
25	TYPE		Oil free screw	RECEIVER VESSELS: N/A		
26	DESIGN TEMP/PRESS	°C/bar(g)	-10-280 / 5	LIGHTING: N/A		
27	COMPRESSION RATIO		3.17	BASEPLATE: Included		
28	VOL. EFFICIENCY	%	96.5	FIRST OIL FILLING: Included		
29	NOISE @ 1M	dBA	85			
29	DRIVER PERFORMANCE 44C-80004A/B-M1			UTILITY SUPPLIES		
30	OPERATING SPEED	rpm	2985	ELECTRICAL SUPPLY :		
31	RATING	kW	590	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	5298
39	AMB. TEMPERATURE	°C	5-48	DRIVER	kg	4002
40	AMB. PRESSURE	bar(g)	0	MISCELLANEOUS	kg	4700
41	REL. HUMIDITY	%	65-100	TOTAL	kg	+/- 14000
42	AREA CLASSIFICATION		Safe area			
43	NOISE LIMITATION	dBA	85	SIZE	mm L X W X H	6000 X 2180 X 3413
44	MCT repeated comment: Complete designation shall be specified. (e.g. ASTM A48 Class 40) Meeting conclusion date 2025.7.29: AIRPACK confirmed to add ASTM equivalent to each Material.					
46	CASING			BEARING HOUSING		
47				TYPE ANTI-FRICTION		
48	MATERIAL		EN-GJL-250 / ASTM A48	BALL / ROLLER ROLLER		
49	COOLING		AIR-COOLED			
50	DRIVE DIRECTION		CW	LUBRICATION		
51				LUBE SYSTEM : FORCED LUBRICATION, AIR COOLED		
52				OIL PUMP DRIVE : SHAFT DRIVEN		
53	ROTORS			ITEM OIL CAPACITY 65		
54	NO. OF LOBES MALE		4	LUBE OIL COOLER AIR-COOLED		
55	NO. OF LOBES FEMALE		6	LUBE OIL FILTER INCLUDED		
56	MATERIAL		C45N / AISI 1045	THERMOSTATIC VALVE YES		
57	MCT repeated comment: It is AISI material. ASTM equivalent shall be specified. Meeting conclusion date 2025.7.29: AIRPACK confirmed to add ASTM equivalent to each Material.					
58	TIMING GEARS			ARDS AND SPECIFICATIONS		
59	MATERIAL		16 Mn Cr5 / ASTM A29	MCT repeated comment: ASTM A29 is a general specification, not product specification. Please specify proper ASTM standard. Meeting conclusion date 2025.7.29: AIRPACK confirmed to add ASTM equivalent to each Material. Compressor: mm, etc.		
60	TYPE		HELICAL, TEETH HARDENED			
61	SEALING			INSTRUMENTATION		
62	SHAFT SEALING TYPE		LABYRINTH	FUNCTION		TYPE(S)
63				COMPRESSOR INLET PRESSURE		GAUGE & TRANSMITTER
65	SKID / COMPRESSOR CONNECTIONS (ASME B16.5)			COMPRESSOR DISCHARGE TEMPERATURE		TRANSMITTER
66	NOZZLE	SIZE	RATING	FACING	POSITION	COMPRESSOR DISCHARGE PRESSURE GAUGE & TRANSMITTER
67				COMPRESSOR OIL TEMPERATURE		TRANSMITTER
68	AIR DISCHARGE	10"	150#	RF	TOP	COMPRESSOR OIL PRESSURE GAUGE & TRANSMITTER
69				COMPRESSOR INLET FILTER DIFF.PRESSURE		TRANSMITTER
70				COMPRESSOR OIL LEVEL		SIGHT GLASS
70	SazehRED repeated Comment: Inlet nozzle to be added to connection list. Meeting conclusion date 2025.7.29: Airpack confirmed to add size of Inlet Duct in Next Revision.			MAIN MOTOR TEMPERATURE (BEARINGS AND WINDINGS)		RTD
71	NOTES : 1: FOR MORE INFORMATION ABOUT THE DRIVER REFER TO MOTOR DATASHEET					
72						



Q_1 : Ansaugvolumenstrom (Luft)
 bei $p_1 = 1,0$ bar und $t_1 = 20^\circ\text{C}$

n_{HR} : Hauptrotordrehzahl

n_V : Antriebswellendrehzahl

P : Leistungsbedarf an der Kupplung

Δt : Temperaturerhöhung

Δp : Druckerhöhung

π_i : Eingebautes Druckverhältnis

intake volume flow (air)
 at $p_1 = 1.0$ bar and $t_1 = 20^\circ\text{C}$

main rotor speed

drive shaft speed

power required at the coupling

temperature rise

pressure difference

built-in compression ratio

débit aspiré (air)
 pour $p_1 = 1,0$ bar et $t_1 = 20^\circ\text{C}$

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





300 KT polyethylene plant project (ASPC)



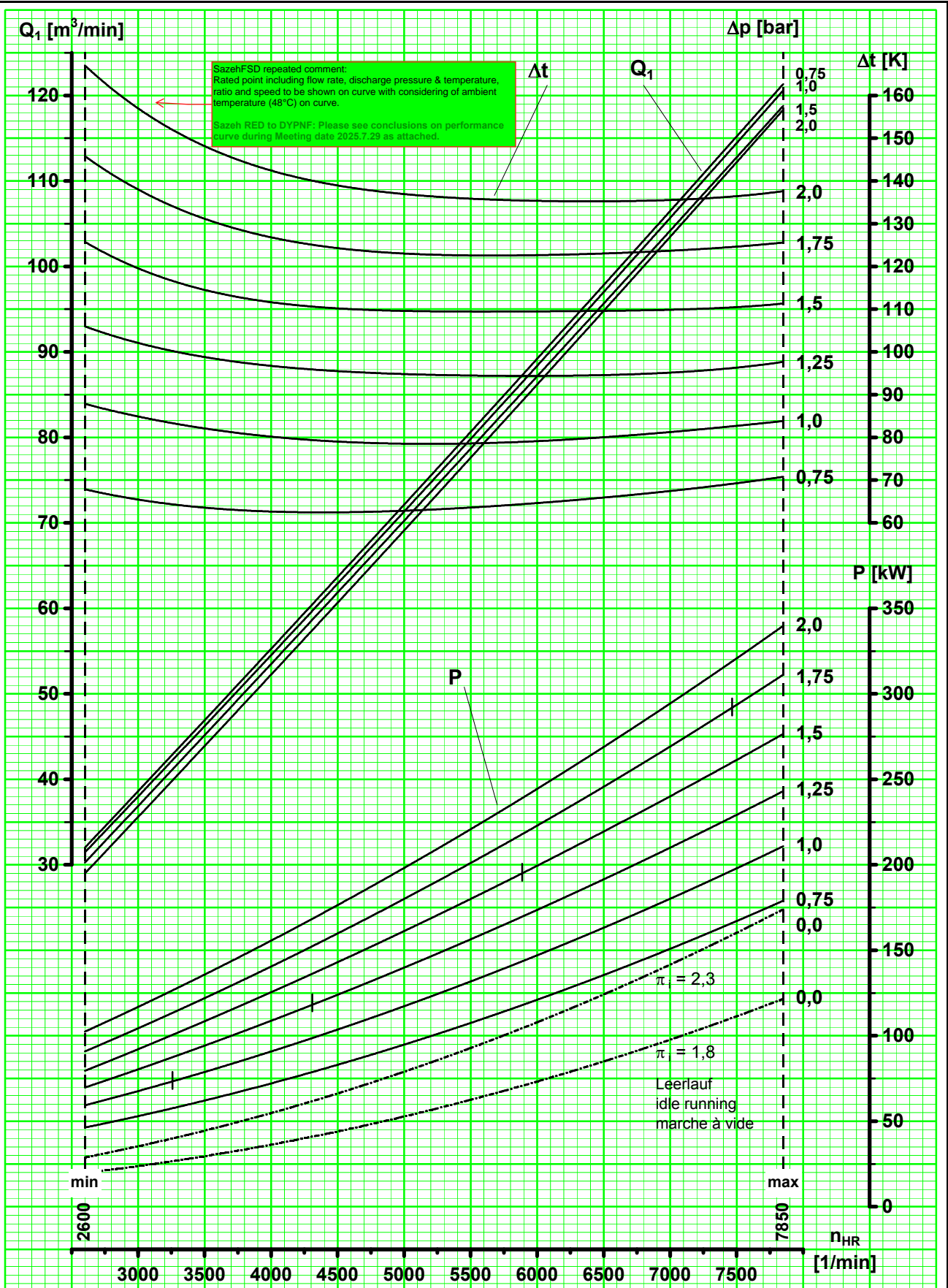
DATE: 08/08/2025

DOC NO.: 23383-11B COMPRESSOR DATA SHEET

REV. 02

PAGE: 3 of 4

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	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/m ³	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	AUTO CONDENSATE TRAP :	N/A		
17	DISCHARGE CONDITIONS			AIR DRYER :	N/A		
18	PRESSURE	bar(g)	1.41	NITROGEN GENERATOR :	N/A		
19	FLOW RATE	Nm ³ /h	4226	BLOW-OFF SILENCER :	N/A		
20	TEMPERATURE	°C	164	CONTROL PANEL :	LPS and Junction box		
21	CONNECTION		ANSI 10" 150#	VIBRATION MONITOR :	N/A		
22	COMP. PERFORMANCE			RECONNECTING PIPEWORK & VALVES :	N/A		
23	SPEED	rpm	6253	ACOUSTIC ENCLOSURE :	Included		
24	ABSORBED POWER	kW	189	FOUNDATION BOLTS :	Included		
25	TYPE		Oil free screw	RECEIVER VESSELS :	N/A		
26	DESIGN TEMP/PRESS	°C/bar(g)	-10-230 / 3.2	LIGHTING :	N/A		
27	COMPRESSION RATIO		2.39	BASEPLATE :	Included		
28	VOL. EFFICIENCY	%	96.6	FIRST OIL FILLING :	Included		
29	NOISE @ 1M	dB(A)	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	4141	
41	REL. HUMIDITY	%	65-100	TOTAL	kg	+/- 8850	
42	AREA CLASSIFICATION		Safe air	SIZE	mm L X W X H	5500 X 1700 X 1880	
43	NOISE LIMITATION	dB(A)	85				
44							
45							
46	CASING			BEARING HOUSING			
47	MATERIAL		EN-GJL-250 / ASTM A48	TYPE	ANTI-FRICTION		
48	COOLING		AIR-COOLED	BALL / ROLLER	ROLLER		
49	DRIVE DIRECTION			LUBRICATION			
50				LUBE SYSTEM :	FORCED LUBRICATION, AIR COOLED		
51				LUBE OIL PUMP DRIVE :	kW	SHAFT DRIVEN	
52				SYSTEM OIL CAPACITY	L	30	
53	ROTORS			LUBE OIL COOLER		AIR-COOLED	
54	NO. OF LOBES MALE		3	LUBE OIL FILTER		INCLUDED	
55	NO. OF LOBES FEMALE		4			YES	
56	MATERIAL		C45N / AISI 1045	STANDARDS AND SPECIFICATIONS			
57				Compressor: Mfr. Std.			
58	TIMING GEARS						
59	MATERIAL		16 Mn Cr5 / ASTM A29				
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						TRANSMITTER	
68	AIR DISCHARGE	10"	150#	RF	TOP	COMPRESSOR OIL TEMPERATURE	
69						GAUGE & TRANSMITTER	
70						TRANSMITTER	
71						COMPRESSOR INLET FILTER DIFF.PRESSURE	
72						TRANSMITTER	
73						COMPRESSOR OIL LEVEL	
74						SIGHT GLASS	
75						MAIN MOTOR TEMPERATURE (BEARINGS AND WINDINGS)	
76						RTD	
77	NOTES : 1: FOR MORE INFORMATION ABOUT THE DRIVER REFER TO MOTOR DATASHEET						



Q₁ : Ansaugvolumenstrom (Luft)
bei p₁ = 1,0 bar und t₁ = 20°C

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n_V : Verdichterwellendrehzahl

P : Leistungsbedarf an der Kupplung

Δt : Temperaturerhöhung

Δp : Druckerhöhung

π₁ : Eingebautes Druckverhältnis

intake volume flow (air)
at p₁ = 1.0 bar and t₁ = 20°C

main rotor speed

compressor 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 du compresseur

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

VML 95

V2 - 880 - a

n_V / n_{HR} = i

10/2007

