ENGINEERING
TOMORROW

Datasheets

Danfoss Reciprocating compressors
MT / MTZ / NTZ

FRCC.UD.180316.101457

www.danfoss.com/odsg

General Characteristics

Model number (on compressor nameplate)		**MT44HJ4BVE**
Code number for Singlepack*		MT44-4VI
Code number for Industrial pack**		MT44-4VM
Drawing number		8502012g
Suction and discharge connections		Rotolock
Suction connection		1-3/4 " Rotolock
Discharge connection		1-1/4 " Rotolock
Suction connection with supplied sleeve		7/8 " ODF
Discharge connection with supplied sleeve		3/4 " ODF
Oil sight glass		Threaded
Oil equalisation connection		3/8" flare SAE
Oil drain connection		None
LP gauge port		Schrader
IPR valve		30 bar / 8 bar
Cylinders	2	
Swept volume	76.22 cm3/rev	
Displacement @ Nominal speed	13.3 m3/h @ 2900 rpm - 16.0 m3/h @ 3500 rpm	
Net weight	37 kg	
Oil charge	1.8 litre, Mineral - 160P	
Maximum system test pressure Low Side / High side	25 bar(g) / 30 bar(g)	
Maximum differential test pressure	30 bar	
Maximum number of starts per hour	12	
Refrigerant charge limit	5 kg	
Approved refrigerants	R22, R417A-160PZ	

Electrical Characteristics

Nominal voltage	380-400V/3/50Hz - 460V/3/60Hz
Voltage range	340-440 V @ 50Hz - 414-506 V @ 60Hz
Winding resistance (between phases) +/- 7% at 25ºC	3.22 Ω
Maximum Continuous Current (MCC)	9.5 A
Locked Rotor Amps (LRA)	48.5 A
Motor protection	Internal overload protector

Recommended Installation torques

Oil sight glass	50 Nm
Power connections / Earth connection	2 Nm / 2 Nm
Mounting bolts	15 Nm

Parts shipped with compressor

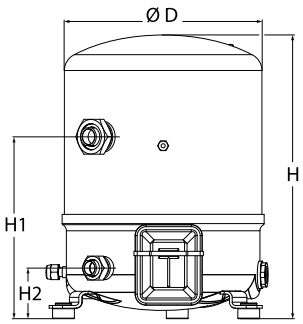
Mounting kit with grommets, bolts, nuts, sleeves and washers
Suction & Discharge solder sleeves, rotolock nuts and gaskets (shipped with rotolock version only)
Initial oil charge
Installation instructions

Approvals : CE certified, UL certified (file SA6873), CCC certified

*Singlepack: Compressor in cardboard box

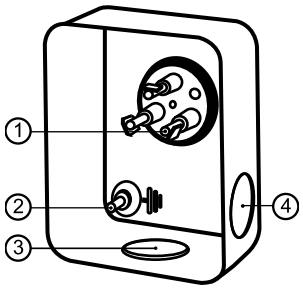
**Industrial pack: 6 Unboxed compressors on pallet (order per multiples of 6)

Dimensions



D=288 mm
H=413 mm
H1=265 mm
H2=74 mm
H3=- mm

Terminal box



IP55 (with cable gland)

1: Spade connectors 1/4"
2: Earth M4-12
3: Knock-out Ø 21 mm (0.83")
4: Hole Ø 21 mm (0.83")

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Rotolock accessories, suction side	Code no.
Solder sleeve, P07 (1-3/4" Rotolock, 7/8" ODF)	8153013
Angle adapter, C07 (1-3/4" Rotolock, 7/8" ODF)	8168008
Rotolock valve, V07 (1-3/4" Rotolock, 7/8" ODF)	8168032
Gasket, 1-3/4"	8156132

Rotolock accessories, discharge side	Code no.
Solder sleeve, P04 (1-1/4" Rotolock, 3/4" ODF)	8153008
Angle adapter, C04 (1-1/4" Rotolock, 3/4" ODF)	8168006
Rotolock valve, V04 (1-1/4" Rotolock, 3/4" ODF)	8168029
Gasket, 1-1/4"	8156131

Rotolock accessories, sets	Code no.
Angle adapter set, C07 (1-3/4"~7/8"), C04 (1-1/4"~3/4")	7703013
Valve set, V07 (1-3/4"~7/8"), V04 (1-1/4"~3/4")	7703006
Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black & white	8156009

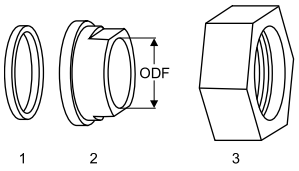
Oil / lubricants	Code no.
Mineral oil, 160P, 2 litre can	7754001
Mineral oil, 160P, 5 litre can	7754002

Crankcase heaters	Code no.
PTC heater 27W,CE mark, UL	120Z0459
Belt type crankcase heater, 65 W, 230 V, CE mark, UL	7773107
Belt type crankcase heater, 65 W, 400 V, CE mark, UL	7773117
Belt type crankcase heater, 65 W, 460 V, CE mark, UL	120Z0466

Miscellaneous accessories	Code no.
Electronic soft start kit, MCI 15 C	7705006
Acoustic hood for 2 cylinder compressor	120Z0472
Oil equalisation nut	8153127

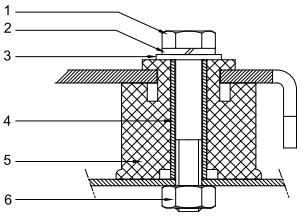
Spare parts	Code no.
Mounting kit for 1 and 2 cylinder compressor, including 3 grommets, 3 bolts	8156001
Oil sight glass with gaskets (black & white)	8156019
Gasket for oil sight glass (black chloroprene)	8156145
Service kit for terminal box 80 x 96 mm, including 1 cover, 1 clamp	8156134

Gaskets, sleeves and nuts



1: Gasket
2: Solder sleeve
3: Rotolock nut

Mounting kit



1: Bolt (3x)
2: Lock washer (3x)
3: Flat washer (3x)
4: Sleeve (3x)
5: Grommet (3x)
6: Nut (3x)

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Performance data at 50 Hz, EN 12900 rating conditions

R22

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-25	-20	-15	-10	-5	0	5	10	15
Cooling capacity in W									
30	2 499	3 543	4 855	6 462	8 389	10 661	13 305	16 347	19 811
35	2 234	3 195	4 412	5 913	7 722	9 865	12 369	15 258	18 559
40	1 995	2 868	3 987	5 377	7 065	9 075	11 434	14 167	17 301
45	1 788	2 570	3 586	4 862	6 423	8 296	10 507	13 080	16 041
50	-	2 306	3 215	4 372	5 804	7 536	9 593	12 002	14 788
55	-	-	2 880	3 915	5 213	6 799	8 700	10 940	13 546
60	-	-	-	3 496	4 656	6 093	7 832	9 900	12 323
65	-	-	-	-	4 140	5 423	6 998	8 889	11 123
Power input in W									
30	1 611	1 799	1 969	2 120	2 251	2 362	2 451	2 519	2 564
35	1 655	1 868	2 064	2 242	2 401	2 540	2 659	2 758	2 834
40	1 684	1 924	2 148	2 355	2 544	2 714	2 865	2 996	3 106
45	1 695	1 965	2 219	2 457	2 678	2 881	3 066	3 232	3 378
50	-	1 988	2 275	2 546	2 801	3 039	3 260	3 463	3 647
55	-	-	2 313	2 619	2 911	3 187	3 446	3 688	3 912
60	-	-	-	2 675	3 005	3 320	3 620	3 903	4 170
65	-	-	-	-	3 082	3 438	3 781	4 108	4 418
Current consumption in A									
30	4.12	4.29	4.47	4.66	4.83	4.98	5.10	5.19	5.22
35	4.17	4.37	4.57	4.78	4.97	5.15	5.30	5.41	5.48
40	4.21	4.43	4.67	4.90	5.13	5.34	5.52	5.67	5.78
45	4.23	4.48	4.75	5.02	5.29	5.54	5.76	5.96	6.11
50	-	4.50	4.81	5.13	5.44	5.74	6.01	6.26	6.46
55	-	-	4.85	5.21	5.58	5.93	6.26	6.57	6.83
60	-	-	-	5.27	5.69	6.11	6.50	6.87	7.20
65	-	-	-	-	5.78	6.26	6.73	7.17	7.57
Mass flow in kg/h									
30	54	76	103	135	173	218	269	326	392
35	51	71	97	129	166	209	259	316	381
40	47	67	91	122	158	200	249	305	369
45	44	63	86	115	150	191	239	293	356
50	-	59	81	108	141	181	228	281	342
55	-	-	76	102	133	172	216	269	328
60	-	-	-	96	126	162	205	256	314
65	-	-	-	-	118	153	194	243	299
Coefficient of performance (C.O.P.)									
30	1.55	1.97	2.47	3.05	3.73	4.51	5.43	6.49	7.73
35	1.35	1.71	2.14	2.64	3.22	3.88	4.65	5.53	6.55
40	1.18	1.49	1.86	2.28	2.78	3.34	3.99	4.73	5.57
45	1.05	1.31	1.62	1.98	2.40	2.88	3.43	4.05	4.75
50	-	1.16	1.41	1.72	2.07	2.48	2.94	3.47	4.05
55	-	-	1.25	1.49	1.79	2.13	2.52	2.97	3.46
60	-	-	-	1.31	1.55	1.83	2.16	2.54	2.96
65	-	-	-	-	1.34	1.58	1.85	2.16	2.52

Nominal performance at to = 5 °C, tc = 50 °C

Cooling capacity	9 593	W
Power input	3 260	W
Current consumption	6.01	A
Mass flow	228	kg/h
C.O.P.	2.94	

Pressure switch settings

Maximum HP switch setting	27.9	bar(g)
Minimum LP switch setting	0.7	bar(g)
LP pump down setting	0.9	bar(g)

Sound power data

Sound power level	77	dB(A)
With accoustic hood	71	dB(A)

to: Evaporating temperature at dew point
tc: Condensing temperature at dew point
Rating conditions : Superheat = 10 K , Subcooling = 0 K

Tolerance according EN12900

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Performance data at 50 Hz, ARI rating conditions

R22

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-25	-20	-15	-10	-5	0	5	10	15
Cooling capacity in W									
30	2 655	3 760	5 148	6 847	8 882	11 280	14 068	17 272	20 919
35	2 382	3 402	4 695	6 286	8 203	10 472	13 120	16 173	19 658
40	2 135	3 066	4 258	5 738	7 532	9 668	12 171	15 069	18 388
45	1 923	2 760	3 847	5 210	6 877	8 875	11 229	13 968	17 116
50	-	2 489	3 466	4 709	6 244	8 099	10 301	12 875	15 850
55	-	-	3 124	4 241	5 640	7 348	9 392	11 798	14 595
60	-	-	-	3 814	5 072	6 628	8 510	10 744	13 359
65	-	-	-	-	4 547	5 947	7 663	9 721	12 149
Power input in W									
30	1 611	1 799	1 969	2 120	2 251	2 362	2 451	2 519	2 564
35	1 655	1 868	2 064	2 242	2 401	2 540	2 659	2 758	2 834
40	1 684	1 924	2 148	2 355	2 544	2 714	2 865	2 996	3 106
45	1 695	1 965	2 219	2 457	2 678	2 881	3 066	3 232	3 378
50	-	1 988	2 275	2 546	2 801	3 039	3 260	3 463	3 647
55	-	-	2 313	2 619	2 911	3 187	3 446	3 688	3 912
60	-	-	-	2 675	3 005	3 320	3 620	3 903	4 170
65	-	-	-	-	3 082	3 438	3 781	4 108	4 418
Current consumption in A									
30	4.12	4.29	4.47	4.66	4.83	4.98	5.10	5.19	5.22
35	4.17	4.37	4.57	4.78	4.97	5.15	5.30	5.41	5.48
40	4.21	4.43	4.67	4.90	5.13	5.34	5.52	5.67	5.78
45	4.23	4.48	4.75	5.02	5.29	5.54	5.76	5.96	6.11
50	-	4.50	4.81	5.13	5.44	5.74	6.01	6.26	6.46
55	-	-	4.85	5.21	5.58	5.93	6.26	6.57	6.83
60	-	-	-	5.27	5.69	6.11	6.50	6.87	7.20
65	-	-	-	-	5.78	6.26	6.73	7.17	7.57
Mass flow in kg/h									
30	54	76	103	135	172	216	267	325	390
35	50	71	97	128	165	208	258	314	379
40	47	66	91	121	157	199	248	303	367
45	44	62	85	114	149	190	237	292	354
50	-	59	80	108	141	180	226	280	340
55	-	-	76	101	133	171	215	267	326
60	-	-	-	95	125	161	204	254	312
65	-	-	-	-	118	152	193	241	297
Coefficient of performance (C.O.P.)									
30	1.65	2.09	2.62	3.23	3.95	4.78	5.74	6.86	8.16
35	1.44	1.82	2.27	2.80	3.42	4.12	4.93	5.86	6.94
40	1.27	1.59	1.98	2.44	2.96	3.56	4.25	5.03	5.92
45	1.13	1.40	1.73	2.12	2.57	3.08	3.66	4.32	5.07
50	-	1.25	1.52	1.85	2.23	2.66	3.16	3.72	4.35
55	-	-	1.35	1.62	1.94	2.31	2.73	3.20	3.73
60	-	-	-	1.43	1.69	2.00	2.35	2.75	3.20
65	-	-	-	-	1.48	1.73	2.03	2.37	2.75

Nominal performance at to = 7.2 °C, tc = 54.4 °C

Cooling capacity	10 521	W
Power input	3 531	W
Current consumption	6.37	A
Mass flow	239	kg/h
C.O.P.	2.98	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Pressure switch settings

Maximum HP switch setting	27.9	bar(g)
Minimum LP switch setting	0.7	bar(g)
LP pump down setting	0.9	bar(g)

Sound power data

Sound power level	77	dB(A)
With accoustic hood	71	dB(A)

Tolerance according EN12900

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Performance data at 60 Hz, EN 12900 rating conditions

R22

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-25	-20	-15	-10	-5	0	5	10	15
Cooling capacity in W									
30	2 982	4 295	5 883	7 775	10 002	12 596	15 584	19 000	22 872
35	2 666	3 922	5 435	7 232	9 346	11 807	14 643	17 887	21 568
40	2 343	3 541	4 976	6 678	8 677	11 002	13 685	16 755	20 243
45	2 018	3 156	4 512	6 116	7 997	10 187	12 714	15 609	18 902
50	-	2 770	4 046	5 550	7 312	9 364	11 733	14 451	17 548
55	-	-	3 581	4 983	6 625	8 537	10 747	13 286	16 184
60	-	-	-	4 421	5 940	7 710	9 759	12 117	14 814
65	-	-	-	-	5 261	6 886	8 772	10 946	13 440
Power input in W									
30	1 938	2 187	2 397	2 571	2 715	2 835	2 933	3 016	3 089
35	1 986	2 280	2 531	2 743	2 921	3 071	3 197	3 303	3 395
40	2 003	2 348	2 646	2 902	3 120	3 306	3 464	3 600	3 717
45	1 984	2 386	2 737	3 042	3 306	3 534	3 730	3 900	4 049
50	-	2 387	2 796	3 156	3 472	3 748	3 988	4 199	4 384
55	-	-	2 819	3 240	3 613	3 942	4 233	4 489	4 717
60	-	-	-	3 286	3 721	4 110	4 456	4 765	5 042
65	-	-	-	-	3 792	4 246	4 654	5 021	5 351
Current consumption in A									
30	3.82	4.05	4.25	4.42	4.57	4.68	4.78	4.86	4.93
35	3.86	4.15	4.40	4.61	4.80	4.96	5.10	5.21	5.31
40	3.86	4.20	4.51	4.79	5.02	5.23	5.41	5.56	5.70
45	3.81	4.23	4.60	4.93	5.23	5.49	5.72	5.92	6.10
50	-	4.21	4.65	5.05	5.41	5.74	6.02	6.28	6.50
55	-	-	4.67	5.14	5.57	5.96	6.31	6.63	6.91
60	-	-	-	5.19	5.70	6.17	6.59	6.97	7.32
65	-	-	-	-	5.80	6.35	6.85	7.31	7.72
Mass flow in kg/h									
30	65	92	125	163	207	257	315	380	453
35	60	88	120	157	201	250	307	371	443
40	55	82	114	151	194	243	298	361	431
45	50	77	108	144	186	234	289	350	419
50	-	71	102	137	178	225	278	339	406
55	-	-	95	129	170	215	267	326	392
60	-	-	-	121	160	205	256	313	377
65	-	-	-	-	150	194	243	299	362
Coefficient of performance (C.O.P.)									
30	1.54	1.96	2.45	3.02	3.68	4.44	5.31	6.30	7.40
35	1.34	1.72	2.15	2.64	3.20	3.84	4.58	5.42	6.35
40	1.17	1.51	1.88	2.30	2.78	3.33	3.95	4.65	5.45
45	1.02	1.32	1.65	2.01	2.42	2.88	3.41	4.00	4.67
50	-	1.16	1.45	1.76	2.11	2.50	2.94	3.44	4.00
55	-	-	1.27	1.54	1.83	2.17	2.54	2.96	3.43
60	-	-	-	1.35	1.60	1.88	2.19	2.54	2.94
65	-	-	-	-	1.39	1.62	1.88	2.18	2.51

Nominal performance at to = 5 °C, tc = 50 °C

Cooling capacity	11 733	W
Power input	3 988	W
Current consumption	6.02	A
Mass flow	278	kg/h
C.O.P.	2.94	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

Pressure switch settings

Maximum HP switch setting	27.9	bar(g)
Minimum LP switch setting	0.7	bar(g)
LP pump down setting	0.9	bar(g)

Sound power data

Sound power level	80	dB(A)
With accoustic hood	74	dB(A)

Tolerance according EN12900

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Performance data at 60 Hz, ARI rating conditions

R22

Cond. temp. in °C (tc)	Evaporating temperature in °C (to)								
	-25	-20	-15	-10	-5	0	5	10	15
Cooling capacity in W									
30	3 167	4 558	6 238	8 238	10 591	13 327	16 478	20 076	24 151
35	2 842	4 177	5 782	7 689	9 928	12 532	15 532	18 959	22 845
40	2 508	3 786	5 315	7 127	9 251	11 721	14 567	17 822	21 516
45	2 169	3 389	4 841	6 555	8 563	10 897	13 588	16 668	20 169
50	-	2 990	4 362	5 977	7 867	10 064	12 598	15 502	18 807
55	-	-	3 884	5 398	7 169	9 226	11 602	14 328	17 436
60	-	-	-	4 822	6 471	8 387	10 603	13 150	16 059
65	-	-	-	-	5 777	7 551	9 605	11 971	14 679
Power input in W									
30	1 938	2 187	2 397	2 571	2 715	2 835	2 933	3 016	3 089
35	1 986	2 280	2 531	2 743	2 921	3 071	3 197	3 303	3 395
40	2 003	2 348	2 646	2 902	3 120	3 306	3 464	3 600	3 717
45	1 984	2 386	2 737	3 042	3 306	3 534	3 730	3 900	4 049
50	-	2 387	2 796	3 156	3 472	3 748	3 988	4 199	4 384
55	-	-	2 819	3 240	3 613	3 942	4 233	4 489	4 717
60	-	-	-	3 286	3 721	4 110	4 456	4 765	5 042
65	-	-	-	-	3 792	4 246	4 654	5 021	5 351
Current consumption in A									
30	3.82	4.05	4.25	4.42	4.57	4.68	4.78	4.86	4.93
35	3.86	4.15	4.40	4.61	4.80	4.96	5.10	5.21	5.31
40	3.86	4.20	4.51	4.79	5.02	5.23	5.41	5.56	5.70
45	3.81	4.23	4.60	4.93	5.23	5.49	5.72	5.92	6.10
50	-	4.21	4.65	5.05	5.41	5.74	6.02	6.28	6.50
55	-	-	4.67	5.14	5.57	5.96	6.31	6.63	6.91
60	-	-	-	5.19	5.70	6.17	6.59	6.97	7.32
65	-	-	-	-	5.80	6.35	6.85	7.31	7.72
Mass flow in kg/h									
30	65	92	124	162	206	256	313	378	450
35	60	87	119	156	199	249	305	369	440
40	55	82	114	150	193	241	297	359	429
45	50	76	108	144	185	233	287	348	417
50	-	70	101	137	177	224	277	337	404
55	-	-	94	129	169	214	266	324	390
60	-	-	-	120	159	204	254	311	375
65	-	-	-	-	150	193	242	297	359
Coefficient of performance (C.O.P.)									
30	1.63	2.08	2.60	3.20	3.90	4.70	5.62	6.66	7.82
35	1.43	1.83	2.28	2.80	3.40	4.08	4.86	5.74	6.73
40	1.25	1.61	2.01	2.46	2.96	3.55	4.21	4.95	5.79
45	1.09	1.42	1.77	2.15	2.59	3.08	3.64	4.27	4.98
50	-	1.25	1.56	1.89	2.27	2.69	3.16	3.69	4.29
55	-	-	1.38	1.67	1.98	2.34	2.74	3.19	3.70
60	-	-	-	1.47	1.74	2.04	2.38	2.76	3.19
65	-	-	-	-	1.52	1.78	2.06	2.38	2.74

Nominal performance at to = 7.2 °C, tc = 54.4 °C

Cooling capacity	12 885	W
Power input	4 318	W
Current consumption	6.42	A
Mass flow	292	kg/h
C.O.P.	2.98	

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

Pressure switch settings

Maximum HP switch setting	27.9	bar(g)
Minimum LP switch setting	0.7	bar(g)
LP pump down setting	0.9	bar(g)

Sound power data

Sound power level	80	dB(A)
With accoustic hood	74	dB(A)

Tolerance according EN12900

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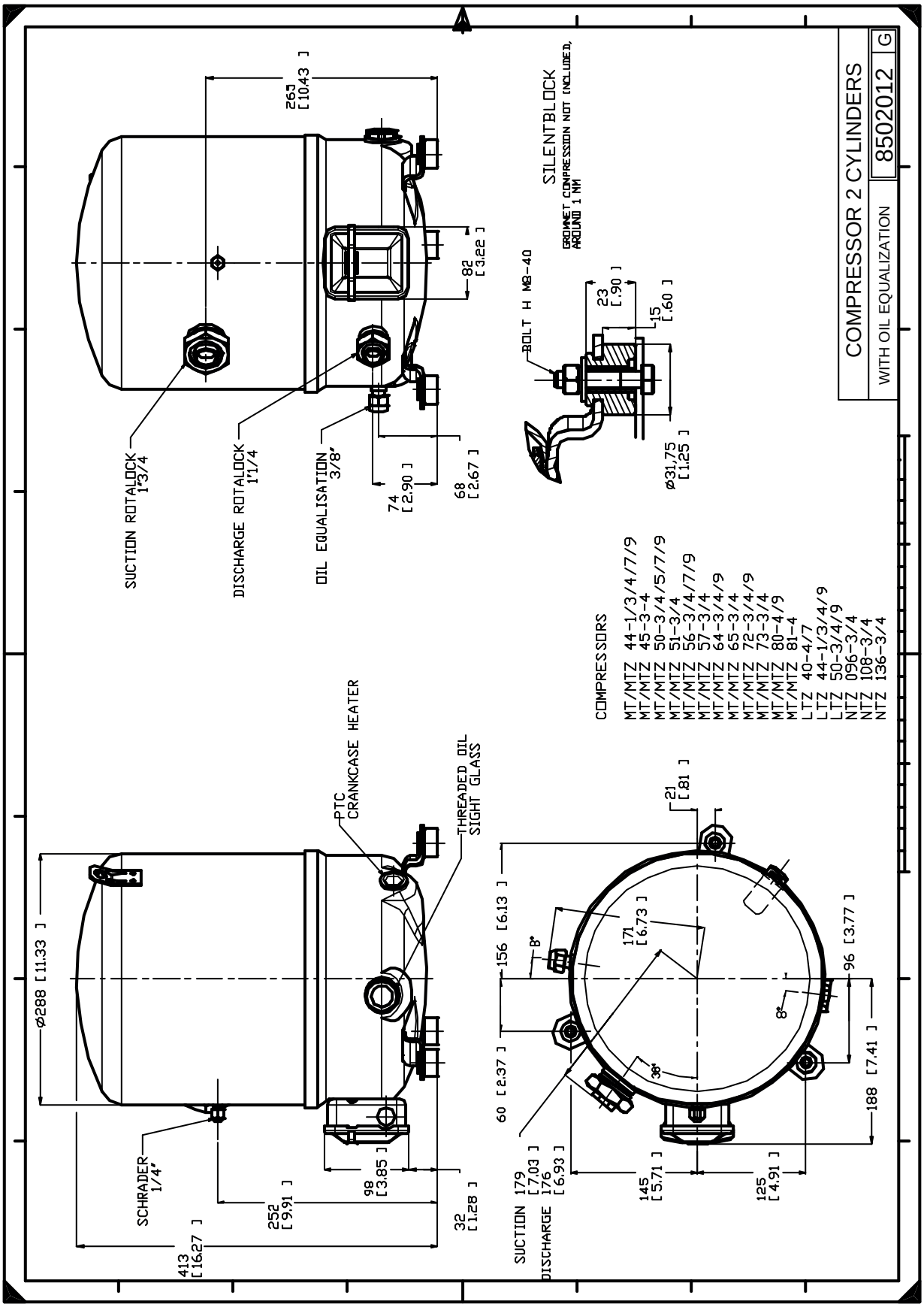

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