ENGINEERING TOMORROW



Datasheets

Danfoss Reciprocating compressors MT / MTZ / NTZ





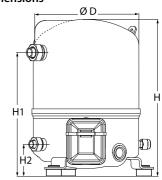


Datasheet, technical data

General Characteristics

Code number for Singlepack*MTZ36-4VICode number for Industrial pack**MTZ36-4VMDrawing number8501025fSuction and discharge connectionsRotolockSuction connection1-1/4 "RotolockDischarge connection1 "RotolockSuction connection with supplied sleeve5/8 " ODFDischarge connection with supplied sleeve1/2 " ODFOil sight glassThreadedOil equalisation connection3/8" flare SAEOil drain connectionNoneLP gauge portSchraderIPR valve30 bar / 8 barCylinders1Swept volume60,47 cm3/revDisplacement @ Nominal speed10.5 m3/h @ 2900 rpm - 12.7 m3/h @ 3500 rpmNet weight25 kgOil charge0,95 litre, POE - 160PZMaximum system test pressure Low Side / High side25 bar(g) / 30 bar(g)Maximum number of starts per hour12Refrigerant charge limit2,5 kgApproved refrigerantsR404A, R507A, R134a, R407C, R407A, R407F	Model number (on compressor nameplate)	MTZ36JG4AVE		
Drawing number Suction and discharge connections Suction connection Discharge connection Discharge connection 1-1/4 " Rotolock 1 " Rotolock 1 " Rotolock Suction connection with supplied sleeve Discharge connection Oil sight glass Oil equalisation connection Discharge connection D	Code number for Singlepack*		MTZ36-4VI	
Suction and discharge connections Suction connection Discharge connection 1-1/4 " Rotolock 1-1/4 " Rotolock 1 " Rotolock Suction connection with supplied sleeve Discharge connection with supplied sleeve Discharge connection with supplied sleeve 1/2 " ODF Oil sight glass Threaded Oil equalisation connection Solid rain connection None LP gauge port Schrader IPR valve 101 drain connection Swept volume Forward Displacement @ Nominal speed 10.5 m3/h @ 2900 rpm - 12.7 m3/h @ 3500 rpm Net weight Oil charge Maximum system test pressure Low Side / High side Maximum differential test pressure Maximum number of starts per hour Refrigerant charge limit 2,5 kg Refrigerant charge limit 2,5 kg	Code number for Industrial pack**		MTZ36-4VM	
Suction connection Discharge connection Discharge connection Suction connection with supplied sleeve Discharge connection with supplied sleeve Discharge connection with supplied sleeve Discharge connection with supplied sleeve Oil sight glass Threaded Oil equalisation connection Oil drain connection LP gauge port LP gauge port Schrader IPR valve 10.5 m3/h @ 2900 rpm - 12.7 m3/h @ 3500 rpm Net weight Oil charge Oil draine Connection Displacement @ Nominal speed Displacement @ Nominal speed Displacement @ Nominal speed Displacement @ O,95 litre, POE - 160PZ Maximum system test pressure Low Side / High side Maximum differential test pressure Maximum number of starts per hour Refrigerant charge limit 1-1/4 " Rotolock 1 "Rotolock 1 "Rotolock 1 "Rotolock 1 "12" "ODF Displacement @ 10.5 m3/h @ 2900 rpm 10.5 m3/h @ 2900 rpm 10.5 m3/h @ 2900 rpm 12.5 kg	Drawing number		8501025f	
Discharge connection Suction connection with supplied sleeve Discharge connection with supplied sleeve Discharge connection with supplied sleeve Oil sight glass Threaded Oil equalisation connection Solution connection IPR valve LP gauge port IPR valve Solutiders Swept volume Displacement @ Nominal speed None 10.5 m3/h @ 2900 rpm - 12.7 m3/h @ 3500 rpm Net weight Oil charge Maximum system test pressure Low Side / High side Maximum differential test pressure Maximum number of starts per hour 12 Refrigerant charge limit 25 kg Refrigerant charge limit	Suction and discharge connections		Rotolock	
Suction connection with supplied sleeve Discharge connection with supplied sleeve Oil sight glass Oil equalisation connection Oil drain connection LP gauge port LPR valve Cylinders Swept volume Displacement @ Nominal speed None 10.5 m3/h @ 2900 rpm - 12.7 m3/h @ 3500 rpm Net weight Oil charge Maximum system test pressure Low Side / High side Maximum number of starts per hour Refrigerant charge limit 5/8 " ODF 1/2 " ODF	Suction connection		1-1/4 " Rotolock	
Discharge connection with supplied sleeve Oil sight glass Oil equalisation connection Oil drain connection LP gauge port LP auguse port LP avalve Cylinders Swept volume Displacement @ Nominal speed Note weight Oil charge Oil drain connection LP gauge port LP 30 bar / 8 bar Cylinders 1 Swept volume 60,47 cm3/rev Displacement @ Nominal speed 10.5 m3/h @ 2900 rpm - 12.7 m3/h @ 3500 rpm Net weight Oil charge Oil charge Oy95 litre, POE - 160PZ Maximum system test pressure Low Side / High side Maximum differential test pressure Maximum number of starts per hour 12 Refrigerant charge limit 2,5 kg	Discharge connection		1 " Rotolock	
Oil sight glass Oil equalisation connection Oil drain connection LP gauge port LP gauge port IPR valve Schrader Swept volume Displacement @ Nominal speed Note weight Oil charge Oil charge Oil drain connection 1 Swept volume 00,47 cm3/rev Displacement @ Nominal speed 10.5 m3/h @ 2900 rpm - 12.7 m3/h @ 3500 rpm Net weight Oil charge Oil cha	Suction connection with supplied sleeve		5/8 " ODF	
Oil equalisation connection Oil drain connection LP gauge port IPR valve Cylinders Swept volume Displacement @ Nominal speed Net weight Oil charge Oil charge Maximum system test pressure Maximum number of starts per hour Ronne Schrader 30 bar / 8 bar 1 1 5wept volume 60,47 cm3/rev 10.5 m3/h @ 2900 rpm - 12.7 m3/h @ 3500 rpm 25 kg 0,95 litre, POE - 160PZ 30 bar 30 bar Maximum differential test pressure 30 bar Maximum number of starts per hour 12 Refrigerant charge limit 2,5 kg	Discharge connection with supplied sleeve		1/2 " ODF	
Oil drain connection LP gauge port LP gauge port LPR valve Schrader 30 bar / 8 bar Cylinders Swept volume 60,47 cm3/rev Displacement @ Nominal speed 10.5 m3/h @ 2900 rpm - 12.7 m3/h @ 3500 rpm Net weight 25 kg Oil charge 0,95 litre, POE - 160PZ Maximum system test pressure Low Side / High side Maximum differential test pressure Maximum number of starts per hour 12 Refrigerant charge limit 2,5 kg	Oil sight glass		Threaded	
LP gauge port IPR valve Cylinders Swept volume Displacement @ Nominal speed Net weight Oil charge Maximum system test pressure Maximum differential test pressure Maximum number of starts per hour Refrigerant charge limit Schrader 30 bar / 8 bar 10.5 m3/h @ 2900 rpm - 12.7 m3/h @ 3500 rpm 10.5 m3/h @ 2900 rpm - 12.7 m3/h @ 3500 rpm 25 kg 0,95 litre, POE - 160PZ 30 bar(g) 30 bar 12 Refrigerant charge limit 2,5 kg	Oil equalisation connection		3/8" flare SAE	
IPR valve 30 bar / 8 bar Cylinders 1 Swept volume 60,47 cm3/rev Displacement @ Nominal speed 10.5 m3/h @ 2900 rpm - 12.7 m3/h @ 3500 rpm Net weight 25 kg Oil charge 0,95 litre, POE - 160PZ 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 2,5 kg	Oil drain connection		None	
Cylinders Swept volume Displacement @ Nominal speed 10.5 m3/h @ 2900 rpm - 12.7 m3/h @ 3500 rpm Net weight Oil charge Maximum system test pressure Low Side / High side Maximum differential test pressure Maximum number of starts per hour Refrigerant charge limit 1 1 1 1 1 1 1 1 1 1 1 1 1	LP gauge port		Schrader	
Swept volume Displacement @ Nominal speed 10.5 m3/h @ 2900 rpm - 12.7 m3/h @ 3500 rpm Net weight Oil charge Maximum system test pressure Low Side / High side Maximum differential test pressure Maximum number of starts per hour Refrigerant charge limit 60,47 cm3/rev 10.5 m3/h @ 2900 rpm - 12.7 m3/h @ 3500 rpm 25 kg 0,95 litre, POE - 160PZ 25 bar(g) / 30 bar(g) 30 bar 12 Refrigerant charge limit 2,5 kg	IPR valve		30 bar / 8 bar	
Displacement @ Nominal speed 10.5 m3/h @ 2900 rpm - 12.7 m3/h @ 3500 rpm Net weight 25 kg Oil charge 0,95 litre, POE - 160PZ Maximum system test pressure Low Side / High side Maximum differential test pressure Maximum number of starts per hour Refrigerant charge limit 10.5 m3/h @ 2900 rpm - 12.7 m3/h @ 3500 rpm 25 kg 0,95 litre, POE - 160PZ 30 bar(g) 31 bar 12 cy5 kg	Cylinders	1	I	
Net weight 25 kg Oil charge 0,95 litre, POE - 160PZ 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 2,5 kg	Swept volume	60,47 c	m3/rev	
Oil charge 0,95 litre, POE - 160PZ 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 2,5 kg	Displacement @ Nominal speed	10.5 m3/h @ 2900 rpm -	- 12.7 m3/h @ 3500 rpm	
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 2,5 kg	Net weight	25	kg	
Maximum differential test pressure 30 bar Maximum number of starts per hour 12 Refrigerant charge limit 2,5 kg	Oil charge	0,95 litre, P	OE - 160PZ	
Maximum number of starts per hour 12 Refrigerant charge limit 2,5 kg	Maximum system test pressure Low Side / High side	25 bar(g) / 30 bar(g)		
Refrigerant charge limit 2,5 kg	Maximum differential test pressure	30	30 bar	
	Maximum number of starts per hour	1	2	
Approved refrigerants R404A, R507A, R134a, R407C, R407A, R407F	Refrigerant charge limit	2,5	kg	
	Approved refrigerants	R404A, R507A, R134a,	R407C, R407A, R407F	

Dimensions



D=224 mm H=356 mm H1=263 mm H2=68 mm H3=- mm

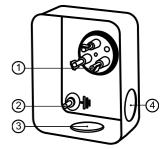
Electrical Characteristics

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 25°C	5.57 Ω
Maximum Continuous Current (MCC)	9 A
Locked Rotor Amps (LRA)	30 A
Motor protection	Internal overload protector

Recommended Installation torques

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

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")

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: 12 Unboxed compressors on pallet (order per multiples of 12)





Datasheet, accessories and spare parts

Service kit for terminal box 80 x 96 mm, including 1 cover, 1 clamp

Maneurop reciprocating compressor, MTZ036-4

Rotolock accessories, suction side	Code no.	
Solder sleeve, P09 (1-1/4" Rotolock, 5/8" ODF)	8153011	
Angle adapter, C09 (1-1/4" Rotolock, 5/8" ODF)	8168009	
Rotolock valve, V09 (1-1/4" Rotolock, 5/8" ODF)	8168033	Gaskets, sleeves and nuts
Gasket, 1-1/4"	8156131	
Rotolock accessories, discharge side	Code no.	
Solder sleeve, P06 (1" Rotolock, 1/2" ODF)	8153007	
Angle adapter, C06 (1" Rotolock, 1/2" ODF)	8168007	
Rotolock valve, V06 (1" Rotolock, 1/2" ODF)	8168031	
Gasket, 1"	8156130	1 2 3
Rotolock accessories, sets	Code no.	1: Gasket
Angle adapter set, C09 (1-1/4"~5/8"), C06 (1"~1/2")	7703012	2: Solder sleeve
Valve set, V09 (1-1/4"~5/8"), V06 (1"~1/2")	7703005	3: Rotolock nut
Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black & white	8156009	
Oil / lubricants	Code no.	
POE lubricant, 160PZ, 1 litre can	7754019	
POE lubricant, 160PZ, 2.5 litre can	120Z0573	
Crankcase heaters	Code no.	Mounting kit
PTC heater 27W,CE mark, UL	120Z0459	
Belt type crankcase heater, 54 W, 230 V, CE mark, UL	7773106	1
Belt type crankcase heater, 54 W, 400 V, UL	7773013	2
Miscellaneous accessories	Code no.	
Electronic soft start kit, MCI 15 C	7705006	4
Acoustic hood for 1 cylinder compressor	120Z0471	
Oil equalisation nut	8153127	
Snava navte	Code no.	6
Spare parts Mounting kit for 1 and 2 cylinder compressor, including 3 grommets, 3 bolts	8156001	
Oil sight glass with gaskets (black & white)	8156019	1: Bolt (3x)
Gasket for oil sight glass (black chloroprene)	8156145	2: Lock washer (3x)
austici of oil signit glass (black chiloropichic)	0130143	2. Flatab au (2)

5: Grommet (3x) 6: Nut (3x)

3: Flat washer (3x)

4: Sleeve (3x)

8156134







Datasheet, performance data

Maneurop reciprocating compressor. MTZ036-4

Performance data at 50 Hz, EN 12900 rating conditions

R404A

Cond. temp. in				Evapora	ting temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
Cooling capacity		0.057	0.007	1,000	0.004	0.040	0.004	40.070	44.557
30	2 064	2 857	3 827	4 996	6 384	8 013	9 904	12 078	14 557
35	1 809	2 550	3 451	4 533	5 817	7 324	9 076	11 093	13 398
40	1 554	2 243	3 073	4 067	5 245	6 630	8 241	10 101	12 230
45	1 300	1 934	2 693	3 598	4 670	5 930	7 400	9 101	11 054
50	1 046	1 624	2 311	3 125	4 089	5 225	6 552	8 093	9 868
55	-	1 313	1 926	2 649	3 504	4 513	5 697	7 077	8 674
60	-	1 001	1 538	2 169	2 914	3 796	4 835	6 052	7 469
Power input in V	v								
30	1 473	1 685	1 882	2 060	2 216	2 346	2 446	2 512	2 541
35	1 495	1 730	1 953	2 159	2 344	2 506	2 640	2 743	2 811
40	1 504	1 764	2 013	2 248	2 465	2 660	2 830	2 970	3 078
45	1 498	1 784	2 061	2 327	2 576	2 806	3 013	3 192	3 340
50	1 476	1 789	2 096	2 393	2 677	2 942	3 187	3 407	3 598
55	-	1 778	2 116	2 446	2 764	3 068	3 352	3 613	3 848
60	-	1 748	2 119	2 483	2 838	3 180	3 505	3 809	4 089
Current consum	ption in A								
30	3.53	3.76	4.01	4.27	4.52	4.74	4.91	5.02	5.05
35	3.56	3.81	4.08	4.37	4.64	4.89	5.09	5.23	5.29
40	3.59	3.86	4.17	4.48	4.79	5.07	5.31	5.49	5.60
45	3.59	3.90	4.25	4.60	4.95	5.28	5.57	5.80	5.95
50	3.56	3.92	4.31	4.71	5.12	5.50	5.84	6.13	6.34
55	-	3.89	4.34	4.80	5.27	5.71	6.12	6.48	6.76
60	-	3.81	4.32	4.86	5.39	5.91	6.39	6.82	7.19
Mass flow in kg/	h								
30	65	88	115	146	182	223	270	324	384
35	61	84	111	142	177	217	263	315	374
40	57	80	106	137	171	211	256	307	364
45	52	75	101	131	166	204	248	298	353
50	47	70	96	126	159	197	240	288	342
55	-	64	90	119	152	189	231	278	331
60	-	57	82	111	144	180	221	267	319
L		1	1	1	1		1	1	
Coefficient of pe	erformance (C.C	1		ı	T	Т	ı	ı	1
30	1.40	1.70	2.03	2.42	2.88	3.42	4.05	4.81	5.73
35	1.21	1.47	1.77	2.10	2.48	2.92	3.44	4.04	4.77
40	1.03	1.27	1.53	1.81	2.13	2.49	2.91	3.40	3.97
45	0.87	1.08	1.31	1.55	1.81	2.11	2.46	2.85	3.31
50	0.71	0.91	1.10	1.31	1.53	1.78	2.06	2.38	2.74
55	-	0.74	0.91	1.08	1.27	1.47	1.70	1.96	2.25
60	-	0.57	0.73	0.87	1.03	1.19	1.38	1.59	1.83

Nominai	performance	e at to = -10	°C, tc = 45	• 0
-				

Cooling capacity	4 670	W
Power input	2 576	W
Current consumption	4.95	Α
Mass flow	166	kg/h
C.O.P.	1.81	

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	27.7	bar(g)
Minimum LP switch setting	0.2	bar(g)
LP pump down setting	0.9	bar(g)

Sound power data

Sound power level	70	dB(A)
With accoustic hood	64	dB(A)

All performance data +/- 5%

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Datasheet, performance data

Maneurop reciprocating compressor. MTZ036-4

Performance data at 50 Hz, ARI rating conditions

R404A

Cond. temp. in				Evapora	ting temperature	in °C (to)			
°C (tc)	-30	-25	-20	-15	-10	-5	0	5	10
									<u> </u>
Cooling capacity		2.472	4.000	5.540	7.000	0.040	40.000	42.220	45.042
30	2 297	3 172	4 238	5 518	7 036 6 469	8 812	10 869	13 228	15 913
35 40	2 035	2 860	3 859 3 478	5 054 4 587		8 124 7 432	10 044 9 214	12 249	14 763 13 605
45	1 772 1 507	2 547 2 231	3 093	4 116	5 898 5 323	6 736	8 378	11 264 10 273	
50	1 239	1 913		3 643	4 745				12 441
	-	1 592	2 707			6 036	7 540	9 278	11 275
55 60	<u> </u>	1 265	2 317	3 167 2 692	4 165 3 589	5 336 4 641	6 701 5 872	8 286 7 306	10 112 8 966
60	-	1 200	1 926	2 092	3 389	4 04 1	5872	7 300	8 900
Power input in W	ı								
30	1 473	1 685	1 882	2 060	2 216	2 346	2 446	2 512	2 541
35	1 495	1 730	1 953	2 159	2 344	2 506	2 640	2 743	2 811
40	1 504	1 764	2 013	2 248	2 465	2 660	2 830	2 970	3 078
45	1 498	1 784	2 061	2 327	2 576	2 806	3 013	3 192	3 340
50	1 476	1 789	2 096	2 393	2 677	2 942	3 187	3 407	3 598
55	-	1 778	2 116	2 446	2 764	3 068	3 352	3 613	3 848
60	-	1 748	2 119	2 483	2 838	3 180	3 505	3 809	4 089
Current consum	ption in A								
30	3.53	3.76	4.01	4.27	4.52	4.74	4.91	5.02	5.05
35	3.56	3.81	4.08	4.37	4.64	4.89	5.09	5.23	5.29
40	3.59	3.86	4.17	4.48	4.79	5.07	5.31	5.49	5.60
45	3.59	3.90	4.25	4.60	4.95	5.28	5.57	5.80	5.95
50	3.56	3.92	4.31	4.71	5.12	5.50	5.84	6.13	6.34
55	-	3.89	4.34	4.80	5.27	5.71	6.12	6.48	6.76
60	-	3.81	4.32	4.86	5.39	5.91	6.39	6.82	7.19
Mass flow in kg/l	h								
30	65	87	114	145	181	222	269	321	381
35	61	84	110	141	176	216	262	313	371
40	57	80	106	136	170	210	254	305	361
45	52	75	101	131	165	203	247	296	351
50	47	69	95	125	158	196	238	286	340
55	-	63	89	118	151	188	230	276	329
60	-	56	82	111	143	179	220	266	317
Coefficient of pe	rformance (C C) P)							
30	1.56	1.88	2.25	2.68	3.17	3.76	4.44	5.27	6.26
35	1.36	1.65	1.98	2.34	2.76	3.24	3.80	4.47	5.25
40	1.18	1.44	1.73	2.04	2.39	2.79	3.26	3.79	4.42
45	1.01	1.25	1.50	1.77	2.07	2.40	2.78	3.22	3.72
50	0.84	1.07	1.29	1.52	1.77	2.05	2.37	2.72	3.13
	0.07	+	1	1.29	1.51	1.74	2.00	2.72	2.63
55	_	0.90	1.10	1 79		1 /4			

Nominal performance at to = -10 °C, tc = 45 °C

Cooling capacity	5 323	W
Power input	2 576	W
Current consumption	4.95	Α
Mass flow	165	kg/h
C.O.P.	2.07	

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	27.7	bar(g)
Minimum LP switch setting	0.2	bar(g)
LP pump down setting	0.9	bar(g)

Sound power data

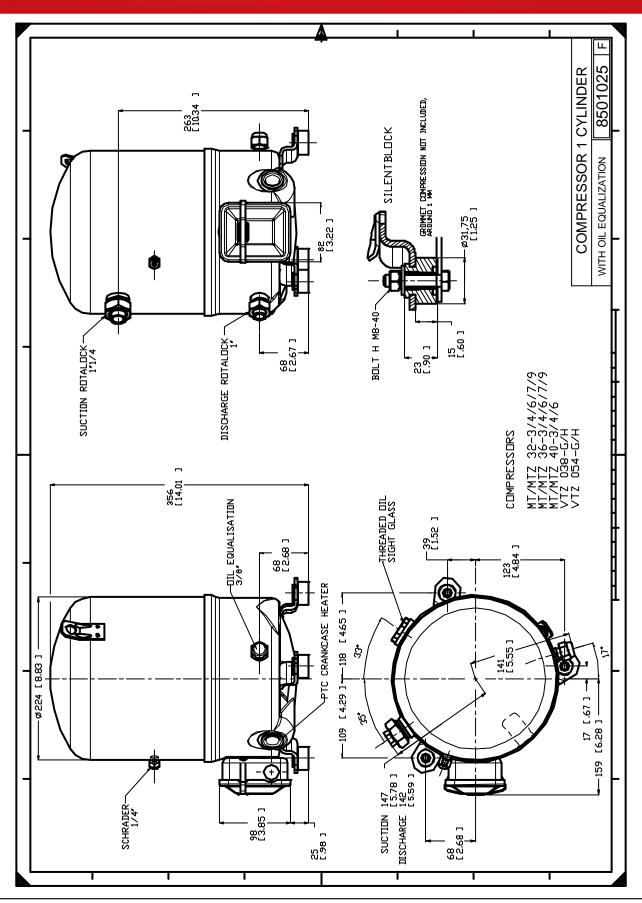
Sound power level	70	dB(A)
With accoustic hood	64	dB(A)

All performance data +/- 5%









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