

Desoutter



Industrial Tools



**LOUZAMPINI
& ASSOCIATES**

info@louzampini.com

www.louzampini.com

PHONE 1-800-353-4676

FAX 1-401-353-0113



Air Motors

- *160 W to 2900 W*
- *Comprehensive range*
- *Lubrication free*
- *Stainless steel*
- *High torques*

More Than Productivity

Why choose Desoutter Air Motors ?

Desoutter offers a wide range of rotating vane air motors in stainless steel and lubrication free versions, with power ranging from 0.16 kW (0.21 hp) to 2.9 kW (3.9 hp). Most motors can be supplied as either unidirectional with a threaded shaft, or reversible with a keyed shaft. Alternative output options are also available. Desoutter air motors can also be ATEX certified for environments with potentially explosive atmospheres.

Air motors are an ideal solution for many applications in such varied equipment as material handling, packaging, strapping, or printing machinery, petrochemical and agricultural equipment, food processing machinery, and many more custom and standard machines.

Air motors offer many advantages over electric motors, and are often the only feasible option for driving automation.

BENEFITS OF AIR MOTORS OVER ELECTRIC MOTORS

- MAY BE LOADED UNTIL FULLY STALLED
- OVERLOAD SAFE
- TORQUE INCREASE AT MOUNTING LOAD
- LOW INSTALLATION COSTS
- EXPLOSION PROOF
- OPERATIONALLY SAFE (DUST, GAS, WATER)
- LOW WEIGHT AND SMALL SIZE
- HIGH POWER DENSITY
- CAN BE STERILIZED

The perfect solution for your application...



Textile



Marine



Petrochemical



Food Processing



Agricultural Equipment



Printing Machinery



Chemical



Strapping Machinery



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ATEX available

Why choose a Air Motor



Heavy duty

- **VERY LOW MAINTENANCE**
- **RESISTANT TO AGGRESSIVE AGENTS**
- **SPECIAL DESIGN FOR FOOD INDUSTRY**
- **SUITABLE FOR HIGH AND LOW TEMPERATURES**
- **SUITABLE FOR DIRTY ATMOSPHERES**
- **ROBUST DESIGN**
- **NO RISK OF OVERHEATING**



Efficiency

- **LIGHT AND COMPACT PRODUCT**
- **STOP & START** REPEATEDLY WITHOUT DAMAGE
- **NO OVERLOAD RISK** MOTOR STALLS WITHOUT DAMAGE
- **ATEX AVAILABLE** FOR POTENTIALLY EXPLOSIVE ENVIRONMENTS
- **WIDE ACCESSORIES RANGE** & MODULAR OUTPUT FOR CUSTOMIZATION
- **EASY TO CONTROL, ADJUST, INSTALL & REVERSE**
- **HIGH PERFORMANCE WITH LOW AIR CONSUMPTION**



Environmentally Friendly

- **SUITABLE FOR CLEAN ATMOSPHERES**
- **DESIGNED FOR LOW AIR CONSUMPTION**
- **LUBRICATION FREE OPTION**
- **NO ADDITIONAL POLLUTION**

Selecting your Air Motor

Glossary information:

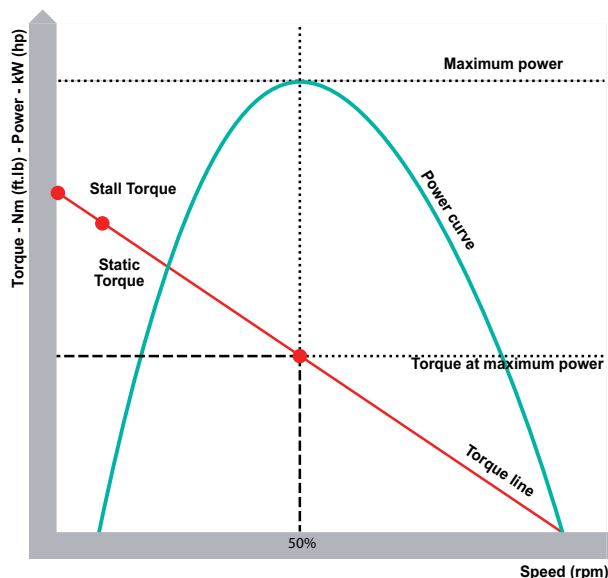
M	R	16	12300	K	S	L	SI
Vane Air Motor		Power in Kw 16 = 0.10-0.16 25 = 0.16-0.25 39 = 0.23-0.39 65 = 0.50-0.65 84 = 0.58-0.84 180 = 1.40-1.83 290 = 2.52-2.91	Free speed	K = Keyed shaft T = Threaded Shaft	S = Stainless steel	L = Lubrication free	SI = Silencer included
O = Clockwise rotation R = Reversible							

Air motor performance

Air motor performance depends on the air pressure and air flow being supplied to the tool. By adjusting pressure and flow, we can change the torque and speed output of the air motor. Air motor peak performance is at **6.3 bar (90 psi)**.

The **main technical references** of an air motor are:

- **POWER IN Watt (hp)**
- **SPEED AT MAXIMUM POWER, rpm**
- **TORQUE AT MAXIMUM POWER, Nm (ft.lb)**
- **STATIC TORQUE, Nm (ft.lb)**
- **FREE SPEED, rpm**
- **AIR CONSUMPTION AT MAXIMUM POWER, l/s (cfm)**



Some applications require a certain stall torque. This can be calculated by taking the torque at maximum power and multiplying this by two. Regulating the pressure is necessary when controlling the stall torque.



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Selecting your Air Motor

Adjusting the performance of the Air Motor

The performance can be modified using a regulator that **reduces or increases the air pressure** to the motor. Consequently there is an decrease or increase of the power, **torque and speed values**.

To calculate performance when the supply pressure is different to 6.3 bar, multiply the data at 6.3 bar by the correction factors below.

Performance coefficient vs the pressure:

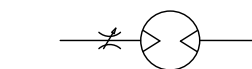
AIR PRESSURE (Bar)	(Psi)	SPEED	TORQUE	AIR CONSUMPTION
7	101	1.01	1.09	1.11
6	87	0.99	0.95	0.96
5	73	0.93	0.79	0.77
4	58	0.85	0.63	0.61
3	44	0.73	0.48	0.44



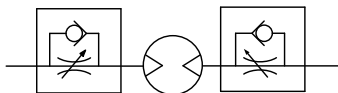
There are two methods to adjust the performance of a motor

- WITH AN AIR FLOW REGULATOR TO CONTROL THE SPEED
- WITH AN AIR PRESSURE REGULATOR TO CONTROL THE TORQUE

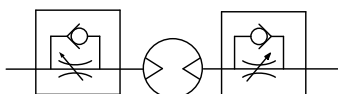
Speed is controlled by restricting the air flow to the motor.
The flow regulator should feature a combined non-return valve.



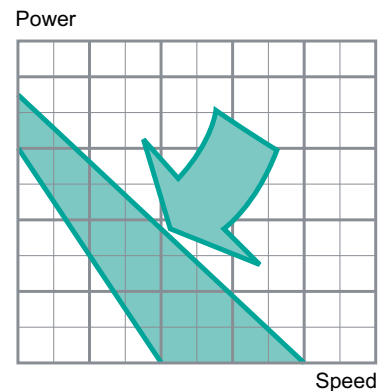
Supply throttling,
non-reversible motor



Supply throttling,
reversible motor



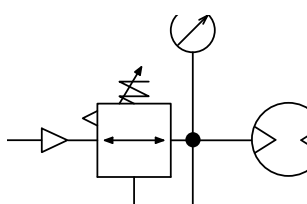
Exhaust throttling,
reversible motor



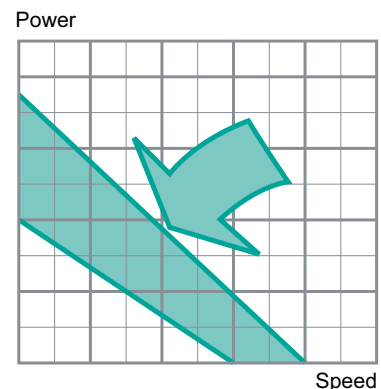
Regulation of the air motor performance

Air pressure is used to control torque
 Control should be via a regulator, filter, lubricator.

Torque is controlled by regulating the pressure of the motor air supply.



Pressure regulation
at motor inlet



Selecting your Air Motor

General rules

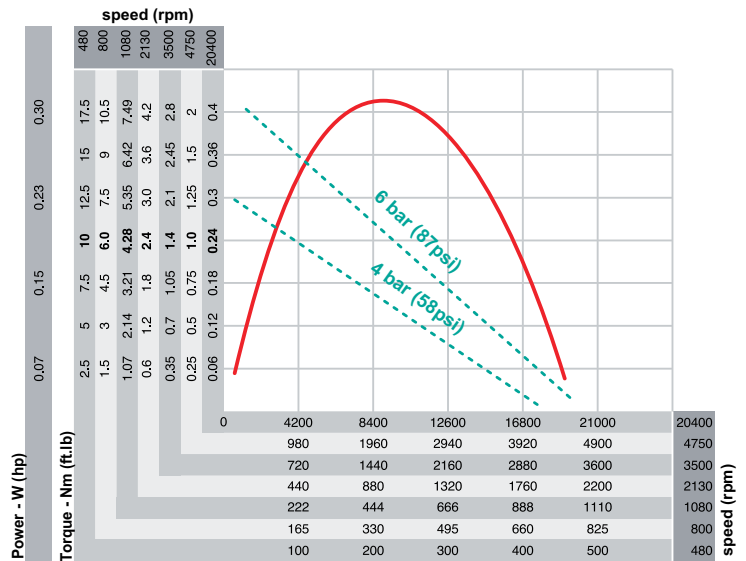
After first determining whether a single direction or a reversible motor is required, the next step is to consider the required output speed and torque together with the operational conditions.

As a general rule try to select a motor with twice the free speed of the speed required under load. By using the performance graphs indicated on the following pages it is then possible to ensure that the motor meets the requirements specified.

Example:

What motor is required to produce an output torque of 6 Nm at 200 rpm.

The motor should be reversible and 6.3 bar supply pressure is available.



• Step One

Select the motor type at maximum power

The maximum torque of the M25 Series motor is 10.8 Nm (7.4 ft-lb). Since a reversible motor is required the MR25 will be used.

• Step Two

Select the appropriate motor speed

As a rule try to select a motor with twice the free running speed of the speed required since this will usually coincide with the high power band of the motor. For this example we require 200 rpm so use a motor of about 400 rpm free running speed. The closest is 450 rpm so try the MR25-450-KL.

• Step Three

Confirm the motor is suitable for the application

By plotting both the torque (6 Nm - 4.4 ft-lb) and speed (200 rpm) on the graph an intersection is found. Provided the intersection is below the torque line for the motor (straight line) then the motor is suitable for the application.

M16-KL Series



0.10 - 0.16 kW (0.14 - 0.22 hp)

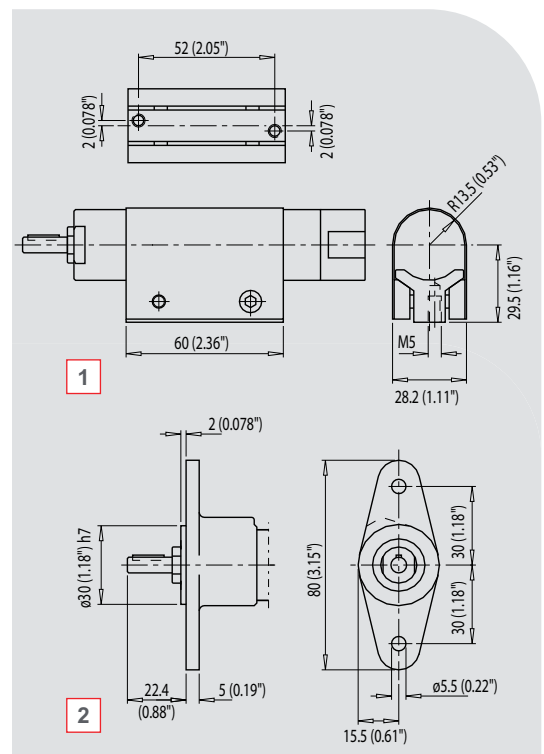
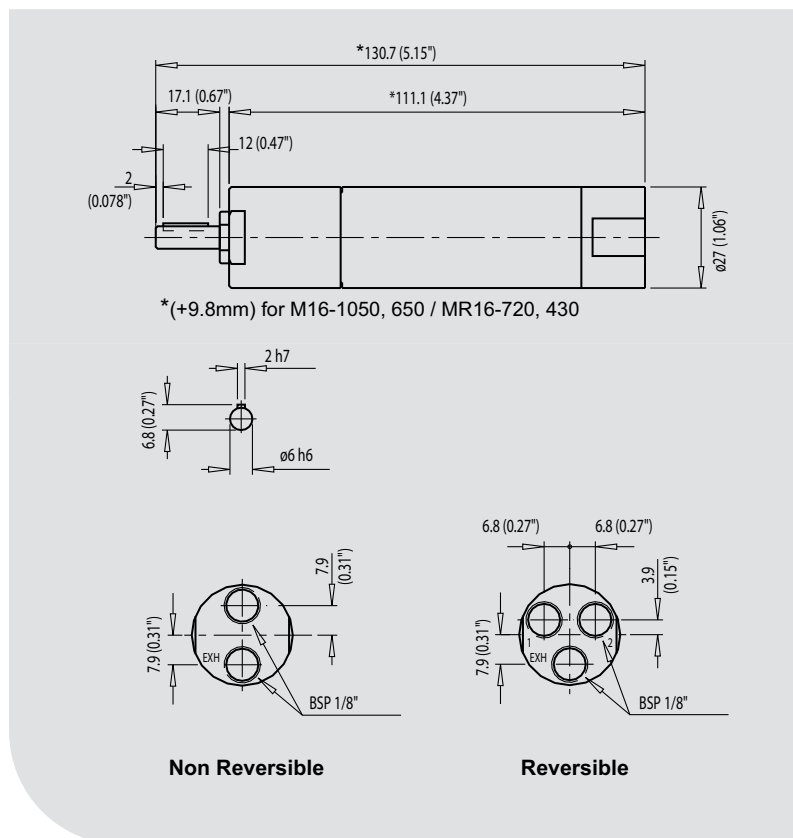


For **EX certification** according to the **ATEX directive** (II 2G T4 IIC D110°C) use order **PN. 205 054 076 3** (book as one order together with motor).



Air pressure 6.3 bar (91 psi)

MODEL	PART NUMBER	MAX OUTPUT		TORQUE AT MAX OUTPUT		MINI STARTING TORQUE		FREE SPEED	AIR CONS. AT MAX OUTPUT		WEIGHT	
		kW	hp	Nm	ft.lb	Nm	ft.lb	rpm	l/s	cfm	kg	lb
Non Reversible												
M16-18500-KL	205 147 892 4	0.16	0.22	0.17	0.12	0.26	0.19	18500	4.2	8.9	0.30	0.66
M16-4460-KL	205 147 893 4	0.16	0.22	0.70	0.50	1.0	0.73	4460	4.2	8.9	0.30	0.66
M16-2660-KL	205 147 894 4	0.16	0.22	1.1	0.78	1.7	1.2	2660	4.2	8.9	0.30	0.66
M16-1050-KL	205 147 895 4	0.16	0.22	2.9	2.1	4.2	3.1	1050	4.2	8.9	0.33	0.73
M16-650-KL	205 147 896 4	0.16	0.22	4.7	3.4	7.0	5.1	650	4.2	8.9	0.33	0.73
Reversible												
MR16-12350-KL	205 147 897 4	0.10	0.14	0.15	0.11	0.19	0.14	12350	3.6	7.6	0.30	0.66
MR16-2950-KL	205 147 898 4	0.10	0.14	0.60	0.43	0.78	0.57	2950	3.6	7.6	0.30	0.66
MR16-1800-KL	205 147 899 4	0.10	0.14	1.0	0.72	1.3	0.95	1800	3.6	7.6	0.30	0.66
MR16-720-KL	205 147 900 4	0.10	0.14	2.5	1.8	3.1	2.3	720	3.6	7.6	0.33	0.73
MR16-430-KL	205 147 901 4	0.10	0.14	4.1	3.0	5.0	3.6	430	3.6	7.6	0.33	0.73

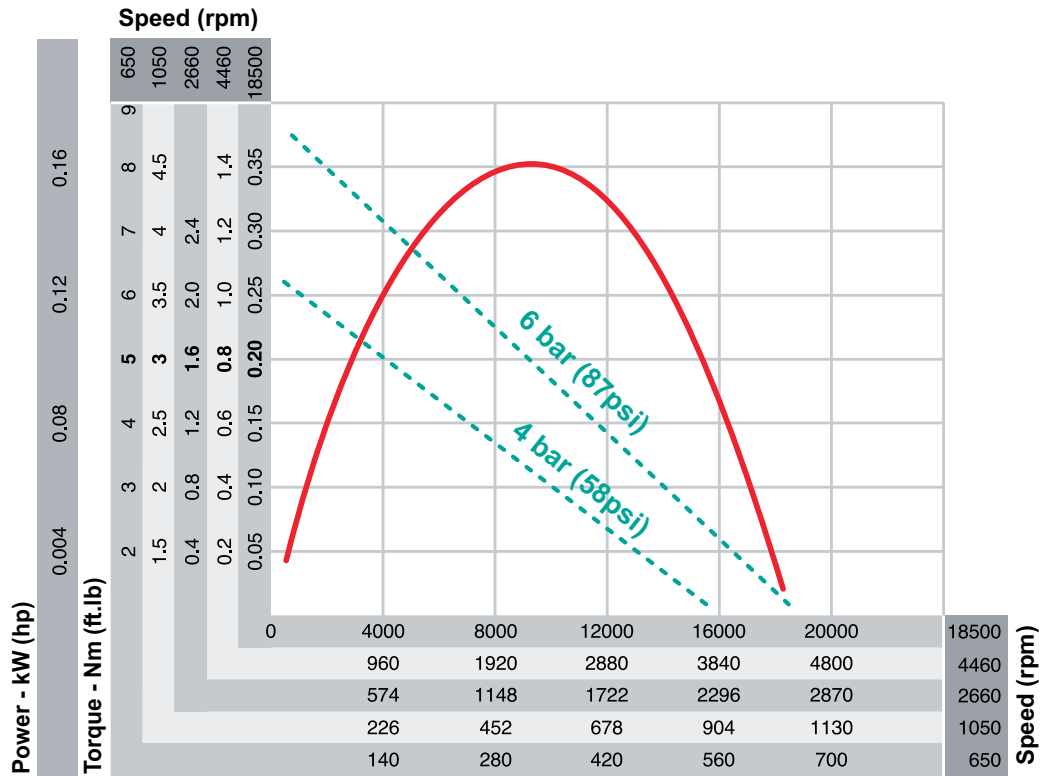


OPTIONAL ACCESSORIES

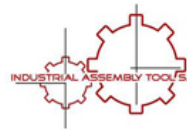
ITEM	PART NO.
1 Mounting foot	205 053 649 3
2 Mounting flange	205 053 640 3

Other optional accessories: see page 30

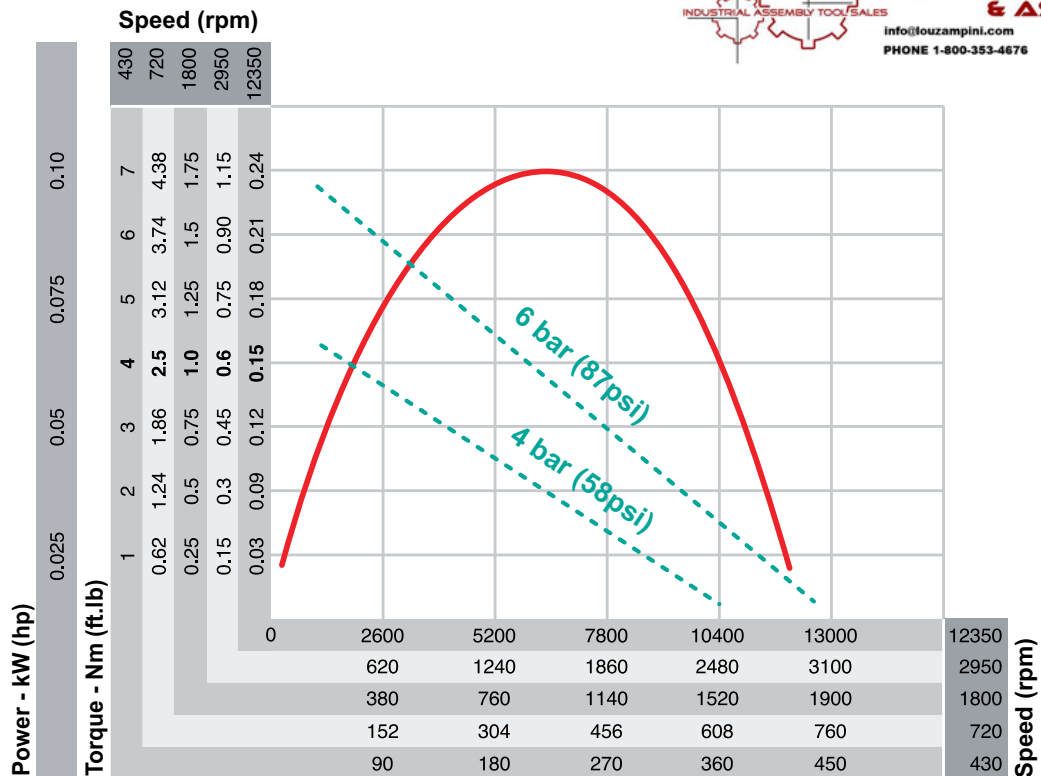
M16-KL at air pressure 6.3 bar (91 psi)
Non Reversible



MR16-KL at air pressure 6.3 bar (91 psi)
Reversible




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M16-KSL Series

**0.10 - 0.16 kW (0.14 - 0.22 hp)
 Stainless steel**

 For EX certification according to the ATEX directive (II 2G T4 IIC D110°C) use order PN. 205 054 076 3 (book as one order together with motor).



Air pressure 6.3 bar (91 psi)

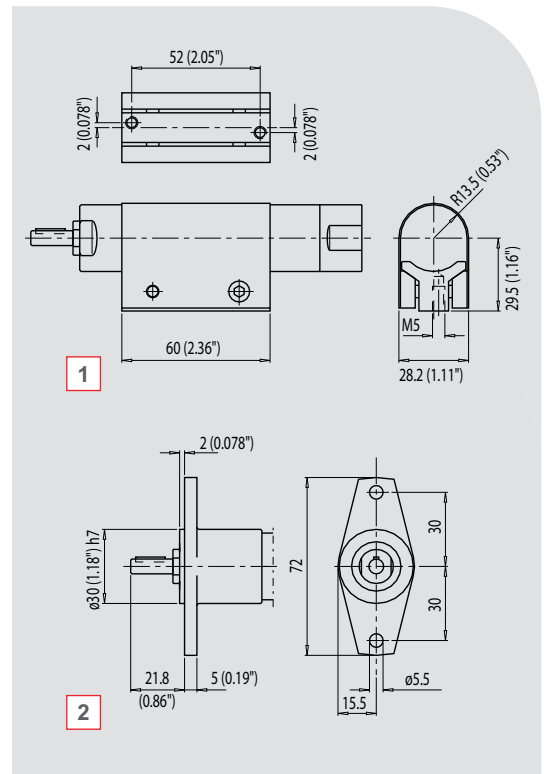
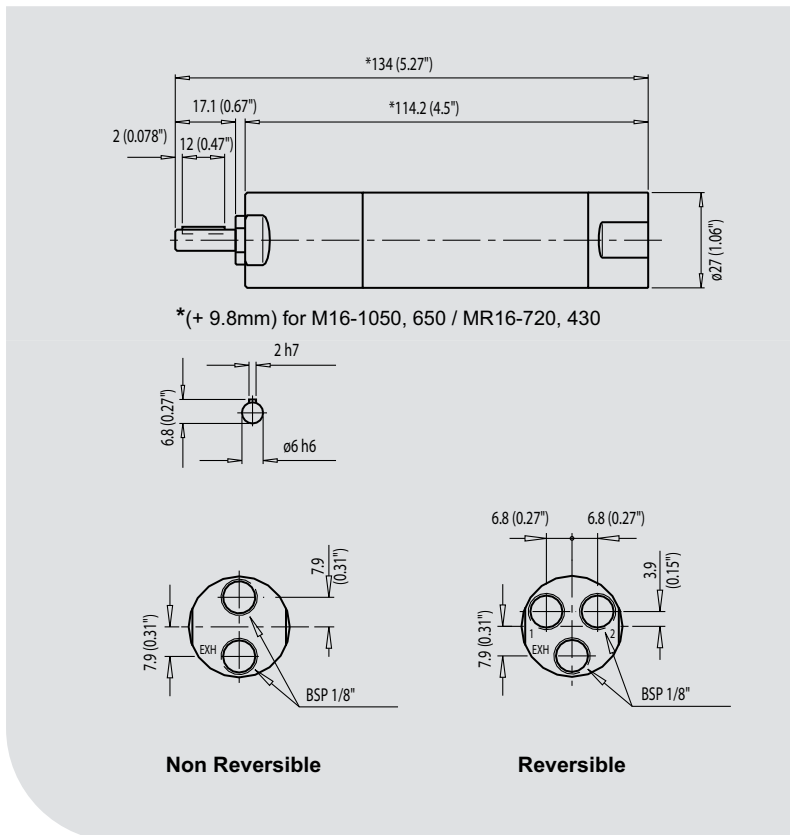
MODEL	PART NUMBER	MAX OUTPUT		TORQUE AT MAX OUTPUT		MINI STARTING TORQUE		FREE SPEED	AIR CONS. AT MAX OUTPUT		WEIGHT	
		kW	hp	Nm	ft.lb	Nm	ft.lb	rpm	l/s	cfm	kg	lb

Non Reversible

M16-18500-KSL	205 147 902 4	0.16	0.22	0.17	0.12	0.26	0.19	18500	4.2	8.9	0.37	0.82
M16-4460-KSL	205 147 903 4	0.16	0.22	0.70	0.50	1.0	0.73	4460	4.2	8.9	0.37	0.82
M16-2660-KSL	205 147 904 4	0.16	0.22	1.1	0.78	1.7	1.2	2660	4.2	8.9	0.37	0.82
M16-1050-KSL	205 147 905 4	0.16	0.22	2.9	2.1	4.2	3.1	1050	4.2	8.9	0.40	0.88
M16-650-KSL	205 147 906 4	0.16	0.22	4.7	3.4	7.0	5.1	650	4.2	8.9	0.40	0.88

Reversible

MR16-12350-KSL	205 147 907 4	0.10	0.14	0.15	0.11	0.19	0.14	12350	3.6	7.6	0.37	0.82
MR16-2950-KSL	205 147 908 4	0.10	0.14	0.60	0.43	0.78	0.57	2950	3.6	7.6	0.37	0.82
MR16-1800-KSL	205 147 909 4	0.10	0.14	1.0	0.72	1.3	0.95	1800	3.6	7.6	0.37	0.82
MR16-720-KSL	205 147 910 4	0.10	0.14	2.5	1.8	3.1	2.3	720	3.6	7.6	0.40	0.88
MR16-430-KSL	205 147 911 4	0.10	0.14	4.1	3.0	5.0	3.6	430	3.6	7.6	0.40	0.88

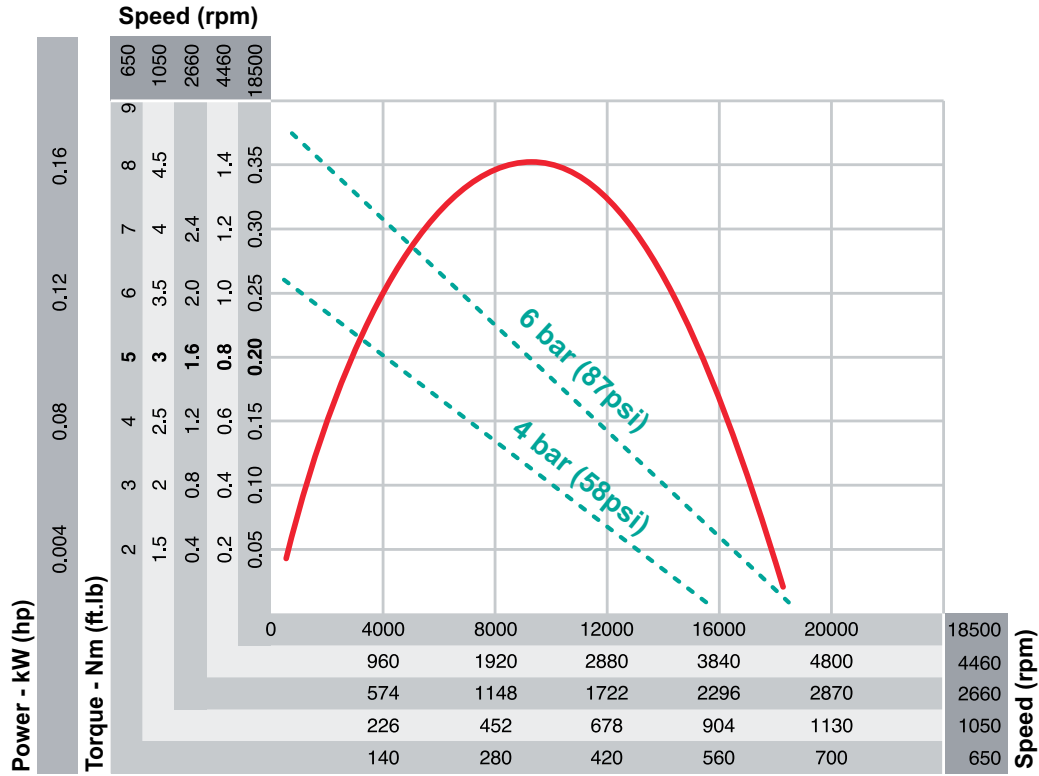


OPTIONAL ACCESSORIES

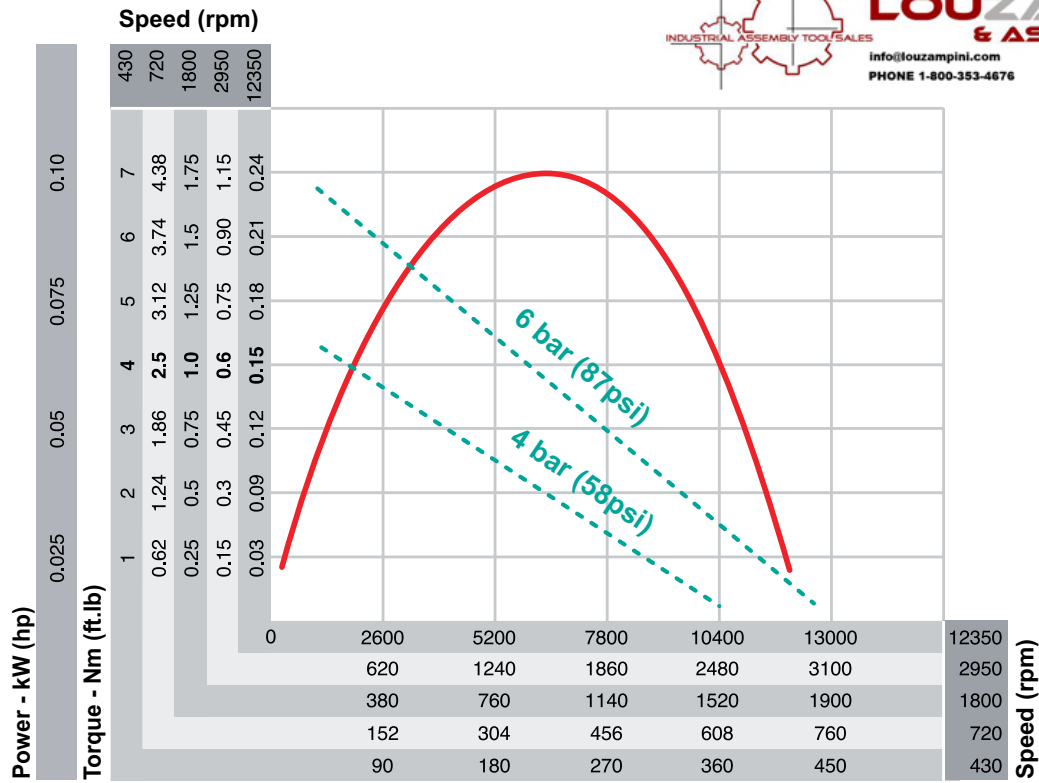
ITEM	PART NO.
1 Mounting foot	205 053 653 3
2 Mounting flange	205 053 645 3

Other optional accessories: see page 30

M16-KSL at air pressure 6.3 bar (91 psi)
Non Reversible



MR16-KSL at air pressure 6.3 bar (91 psi)
Reversible





M25-KL / TL Series

0.16 to 0.25 kW (0.22 - 0.34 hp)

For **EX certification** according to the **ATEX directive** (II 2G T5 IIC D85°C) use order **PN. 205 054 077 3** (book as one order together with motor).



Air pressure 6.3 bar (91 psi)

MODEL	PART NUMBER	MAX OUTPUT		TORQUE AT MAX OUTPUT		MINI STARTING TORQUE		FREE SPEED	AIR CONS. AT MAX OUTPUT		WEIGHT	
		kW	hp	Nm	ft.lb	Nm	ft.lb	rpm	l/s	cfm	kg	lb

Non Reversible - Keyed shaft

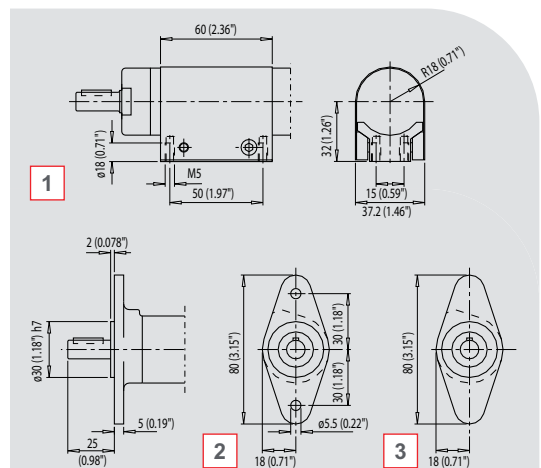
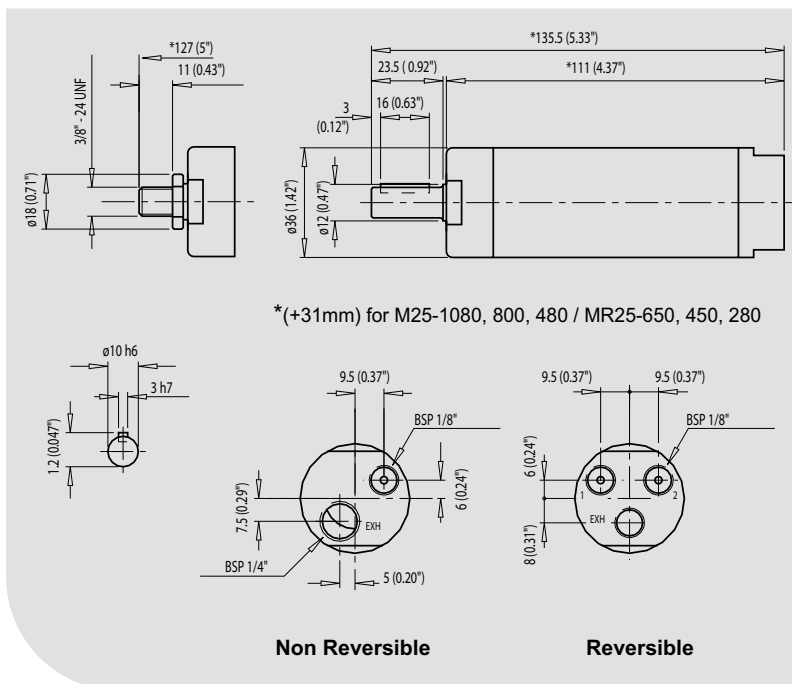
M25-20400-KL	205 147 822 4	0.25	0.34	0.25	0.18	0.45	0.33	20400	5.3	11.2	0.55	1.21
M25-4750-KL	205 147 823 4	0.25	0.34	1.1	0.8	2.0	1.5	4750	5.3	11.2	0.55	1.21
M25-3500-KL	205 147 824 4	0.25	0.34	1.5	1.1	2.7	2.0	3500	5.3	11.2	0.55	1.21
M25-2130-KL	205 147 825 4	0.25	0.34	2.4	1.7	4.5	3.3	2130	5.3	11.2	0.55	1.21
M25-1080-KL	205 147 826 4	0.24	0.32	4.3	3.2	8.0	5.9	1080	5.3	11.2	0.75	1.65
M25-800-KL	205 147 827 4	0.24	0.32	6.0	4.4	10.5	7.7	800	5.3	11.2	0.75	1.65
M25-480-KL	205 147 828 4	0.24	0.32	9.9	7.3	17.0	12.5	480	5.3	11.2	0.75	1.65

Non Reversible - Threaded shaft

M25-20400-TL	205 147 829 4	0.25	0.34	0.25	0.18	0.45	0.33	20400	5.3	11.2	0.55	1.21
M25-4750-TL	205 147 830 4	0.25	0.34	1.1	0.8	2.0	1.5	4750	5.3	11.2	0.55	1.21
M25-3500-TL	205 147 831 4	0.25	0.34	1.5	1.1	2.7	2.0	3500	5.3	11.2	0.55	1.21
M25-2130-TL	205 147 832 4	0.25	0.34	2.4	1.7	4.5	3.3	2130	5.3	11.2	0.55	1.21
M25-1080-TL	205 147 833 4	0.24	0.32	4.3	3.2	8.0	5.9	1080	5.3	11.2	0.75	1.65
M25-800-TL	205 147 834 4	0.24	0.32	6.0	4.4	10.5	7.7	800	5.3	11.2	0.75	1.65
M25-480-TL	205 147 835 4	0.24	0.32	9.9	7.3	17.0	12.5	480	5.3	11.2	0.75	1.65

Reversible

MR25-13100-KL	205 147 836 4	0.16	0.22	0.24	0.18	0.35	0.26	13100	5.0	10.6	0.55	1.21
MR25-2800-KL	205 147 837 4	0.16	0.22	1.1	0.8	1.3	0.96	2850	5.0	10.6	0.55	1.21
MR25-2100-KL	205 147 838 4	0.16	0.22	1.5	1.1	1.8	1.3	2100	5.0	10.6	0.55	1.21
MR25-1280-KL	205 147 839 4	0.16	0.22	2.4	1.7	3.0	2.2	1280	5.0	10.6	0.55	1.21
MR25-650-KL	205 147 840 4	0.16	0.22	5.0	3.7	5.9	4.4	650	5.0	10.6	0.75	1.65
MR25-450-KL	205 147 841 4	0.16	0.22	6.7	4.9	8.0	5.9	450	5.0	10.6	0.75	1.65
MR25-280-KL	205 147 842 4	0.16	0.22	10.8	8.0	13.4	9.9	280	5.0	10.6	0.75	1.65

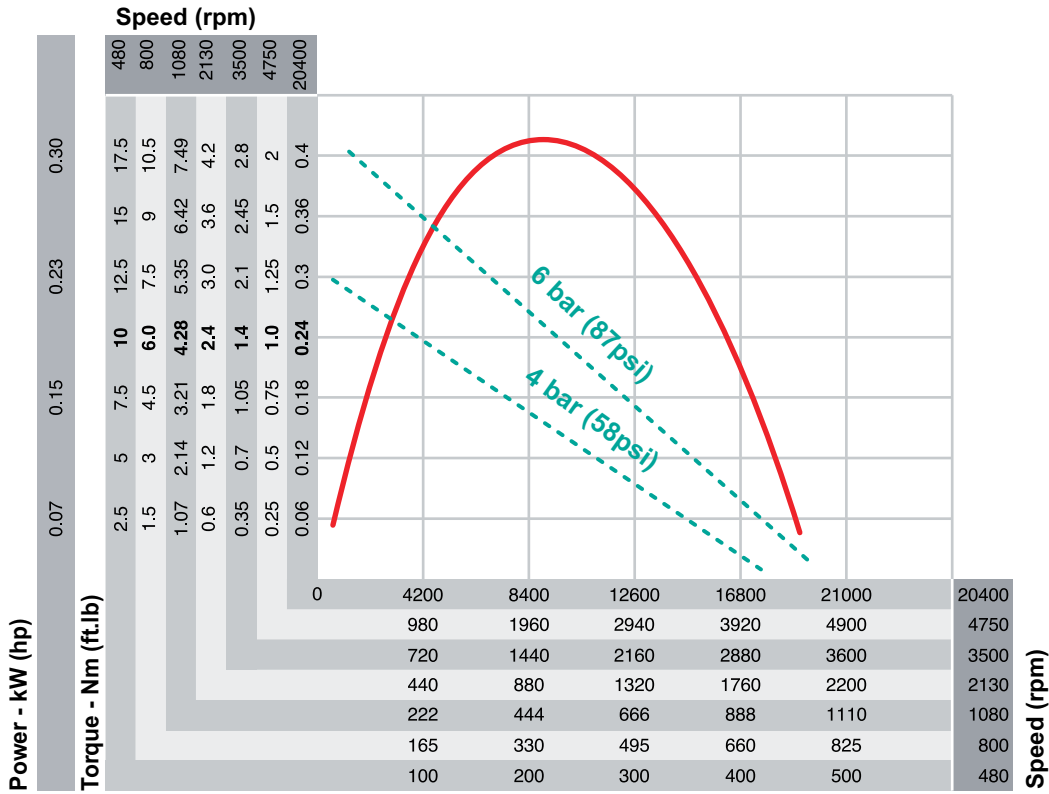


OPTIONAL ACCESSORIES

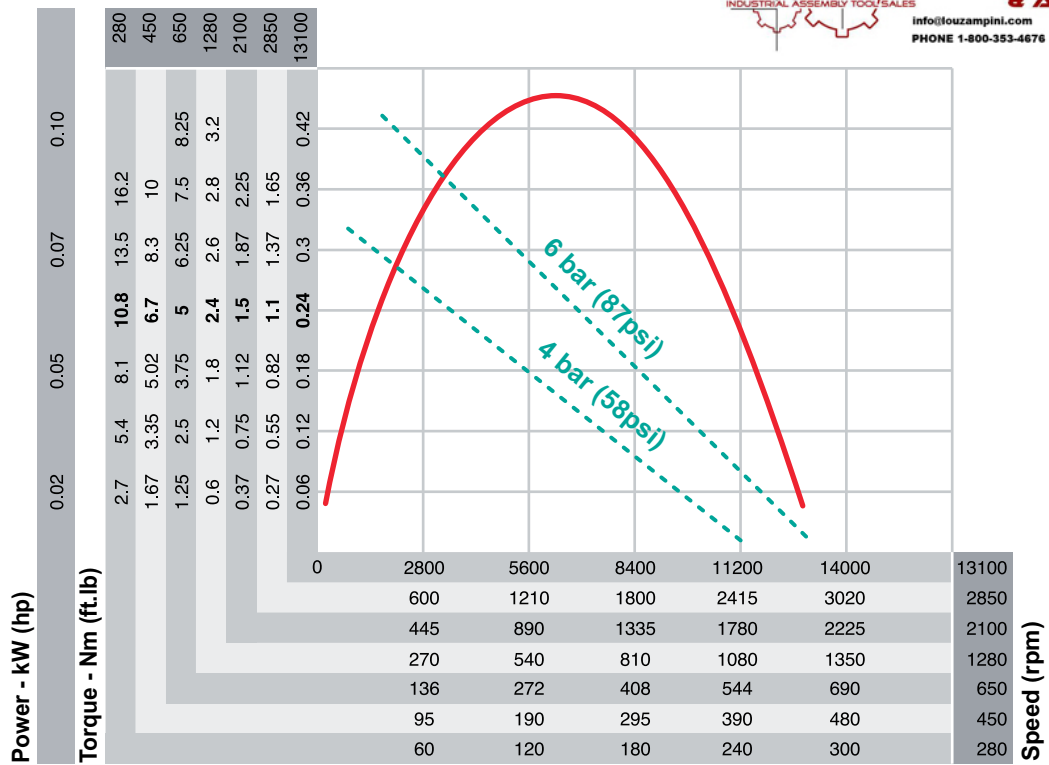
ITEM	PART NO.
1 Mounting foot	205 053 646 3
2 Mounting flange with holes	205 054 062 3
3 Mounting flange without holes	205 053 639 3

Other optional accessories: see page 30

M25-KL at air pressure 6.3 bar (91 psi)
Non Reversible




MR25-KL at air pressure 6.3 bar (91 psi)
Reversible





M25-KSL Series

0.16 to 0.25 kW (0.22 - 0.34 hp)
Stainless steel

 For EX certification according to the ATEX directive (II 2G T5 IIC D85°C) use order PN. 205 054 077 3 (book as one order together with motor).



Air pressure 6.3 bar (91 psi)

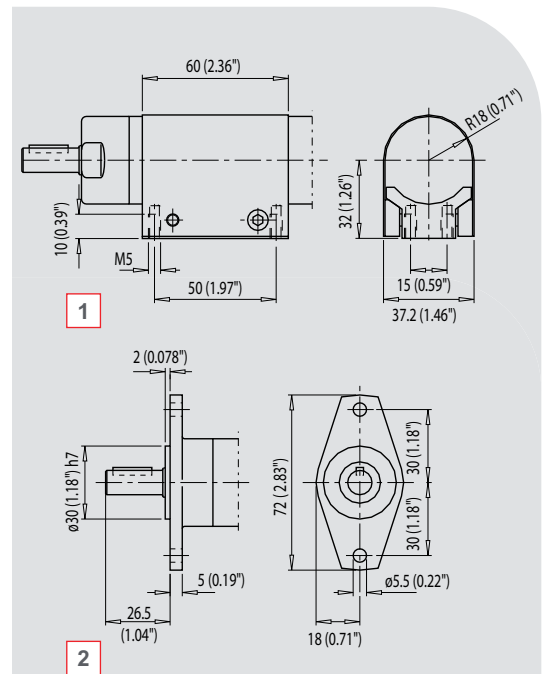
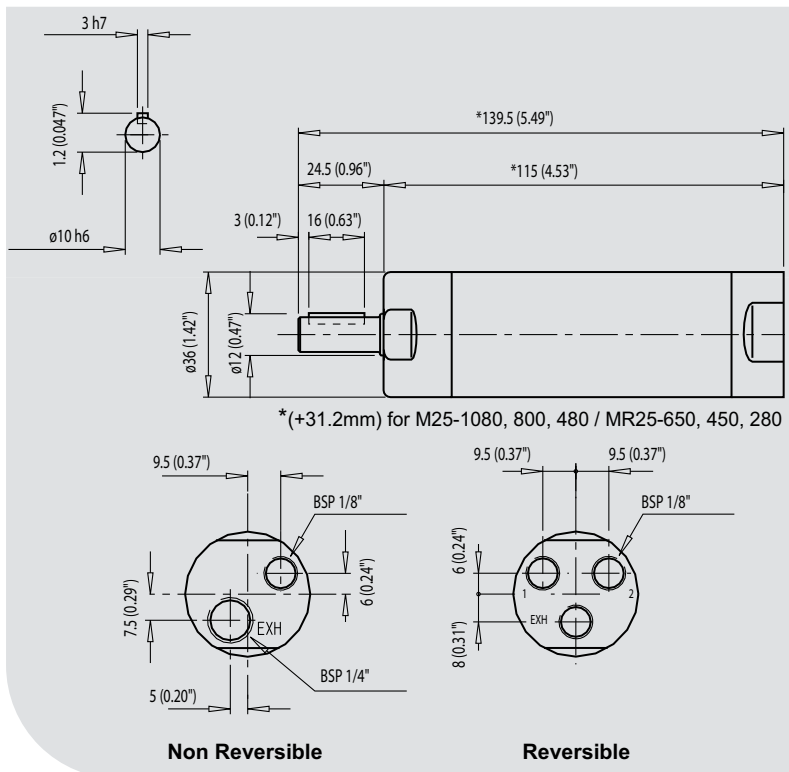
MODEL	PART NUMBER	MAX OUTPUT		TORQUE AT MAX OUTPUT		MINI STARTING TORQUE		FREE SPEED	AIR CONS. AT MAX OUTPUT		WEIGHT	
		kW	hp	Nm	ft.lb	Nm	ft.lb	rpm	l/s	cfm	kg	lb

Non Reversible

M25-20400-KSL	205 147 843 4	0.25	0.34	0.25	0.18	0.45	0.33	20400	5.3	11.2	0.63	1.21
M25-4750-KSL	205 147 844 4	0.25	0.34	1.1	0.81	2.0	1.5	4750	5.3	11.2	0.63	1.21
M25-3500-KSL	205 147 845 4	0.25	0.34	1.5	1.1	2.7	2.0	3500	5.3	11.2	0.63	1.21
M25-2130-KSL	205 147 846 4	0.25	0.34	2.4	1.7	4.5	3.3	2130	5.3	11.2	0.63	1.21
M25-1080-KSL	205 147 847 4	0.24	0.32	4.3	3.2	8.0	5.9	1080	5.3	11.2	0.83	1.65
M25-800-KSL	205 147 848 4	0.24	0.32	6.0	4.4	10.5	7.7	800	5.3	11.2	0.83	1.65
M25-480-KSL	205 147 849 4	0.24	0.32	9.9	7.3	17.0	12.5	480	5.3	11.2	0.83	1.65

Reversible

MR25-13100-KSL	205 147 850 4	0.16	0.22	0.24	0.18	0.35	0.26	13100	5.0	10.6	0.63	1.21
MR25-2800-KSL	205 147 851 4	0.16	0.22	1.1	0.81	1.3	0.96	2850	5.0	10.6	0.63	1.21
MR25-2100-KSL	205 147 852 4	0.16	0.22	1.5	1.1	1.8	1.3	2100	5.0	10.6	0.63	1.21
MR25-1280-KSL	205 147 853 4	0.16	0.22	2.4	1.7	3.0	2.2	1280	5.0	10.6	0.63	1.21
MR25-650-KSL	205 147 854 4	0.16	0.22	5.0	3.7	5.9	4.4	650	5.0	10.6	0.83	1.65
MR25-450-KSL	205 147 855 4	0.16	0.22	6.7	4.9	8.0	5.9	450	5.0	10.6	0.83	1.65
MR25-280-KSL	205 147 856 4	0.16	0.22	10.8	8.0	13.4	9.9	280	5.0	10.6	0.83	1.65

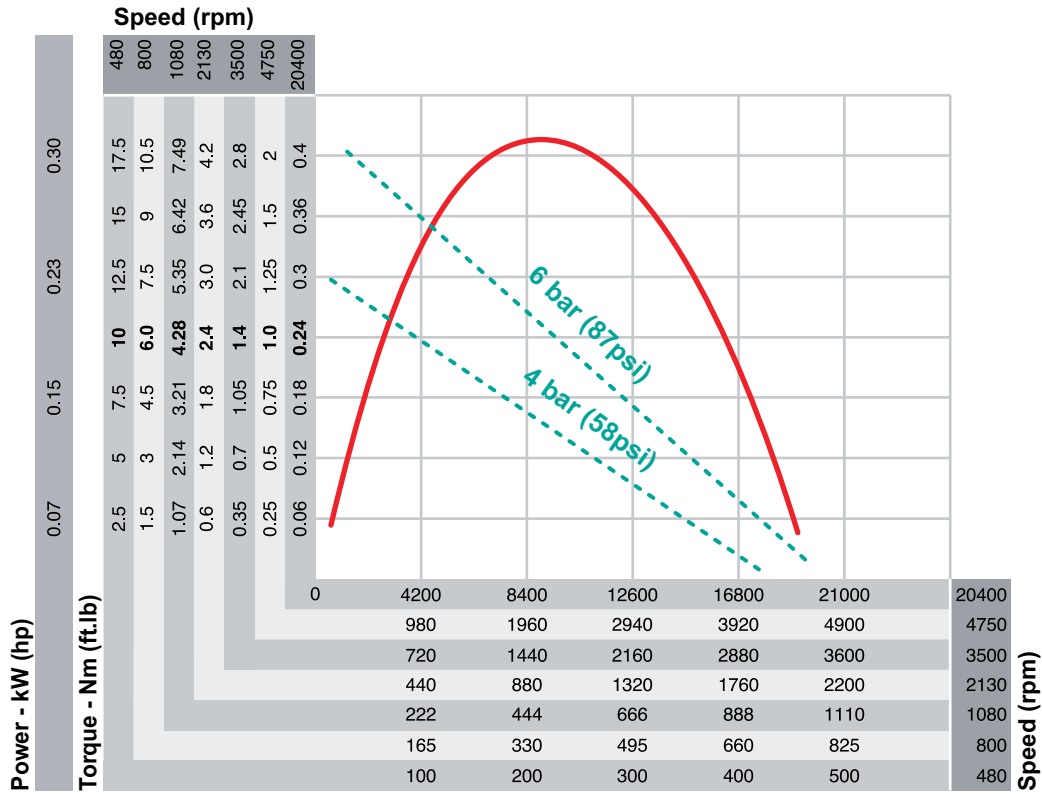


OPTIONAL ACCESSORIES

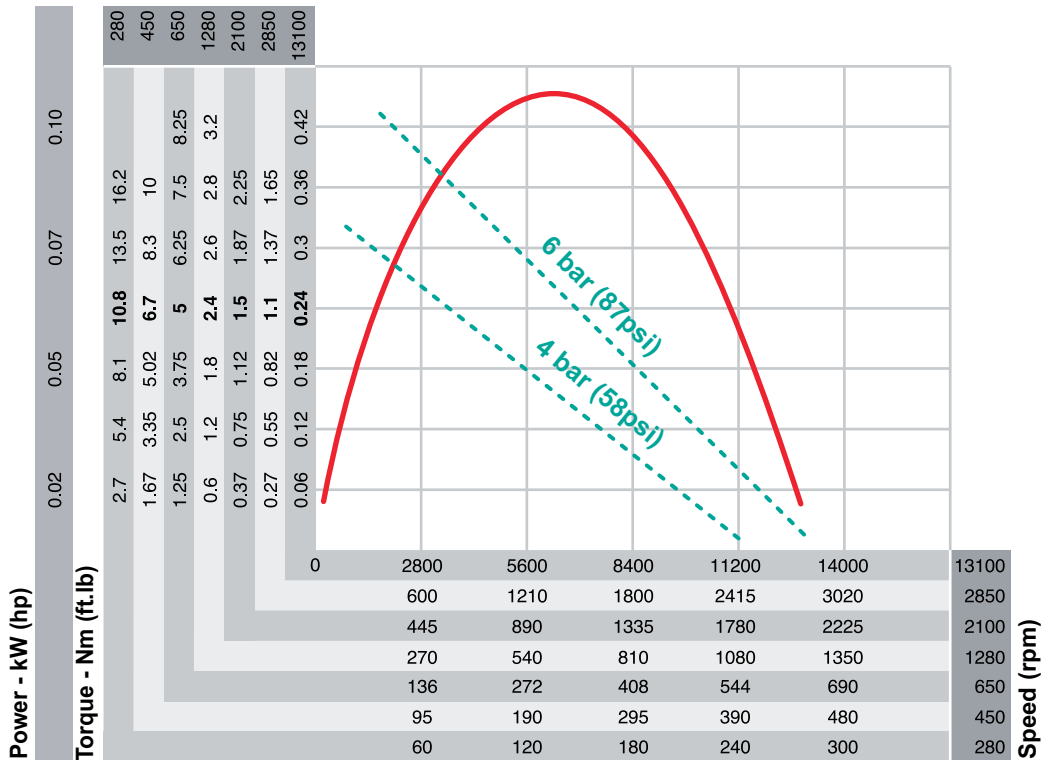
ITEM	PART NO.
1 Mounting foot	205 053 649 3
2 Mounting flange	205 053 644 3

Other optional accessories: see page 30

**M25-KSL at air pressure 6.3 bar (91 psi)
Non Reversible**



**MR25-KSL at air pressure 6.3 bar (91 psi)
Reversible**





M39-KL / TL Series

0.23 to 0.39 kW (0.31 - 0.52 hp)



For **EX** certification according to the **ATEX directive** (II 2G T5 IIC D85°C) use order **PN. 205 054 077 3** (book as one order together with motor).

Air pressure 6.3 bar (91 psi)

MODEL	PART NUMBER	MAX OUTPUT		TORQUE AT MAX OUTPUT		MINI STARTING TORQUE		FREE SPEED	AIR CONS. AT MAX OUTPUT		WEIGHT	
		kW	hp	Nm	ft.lb	Nm	ft.lb	rpm	l/s	cfm	kg	lb

Non Reversible - Keyed shaft

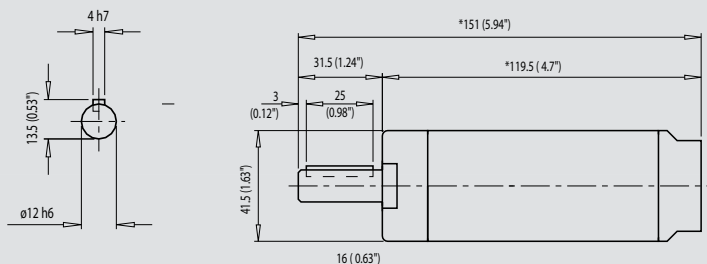
M39-19000-KL	205 147 857 4	0.39	0.52	0.4	0.3	0.76	0.56	19000	8.3	17.6	0.75	1.65
M39-5320-KL	205 147 858 4	0.39	0.52	1.4	1.0	2.7	2.0	5320	8.3	17.6	0.75	1.65
M39-2950-KL	205 147 859 4	0.39	0.52	2.6	1.9	4.9	3.6	2950	8.3	17.6	0.75	1.65
M39-2350-KL	205 147 860 4	0.39	0.52	3.2	2.3	6.1	4.5	2350	8.3	17.6	0.75	1.65
M39-1170-KL	205 147 861 4	0.38	0.51	6.3	4.6	12.0	8.9	1170	8.3	17.6	1.02	2.25
M39-650-KL	205 147 862 4	0.38	0.51	11.3	8.4	21.6	15.9	650	8.3	17.6	1.02	2.25
M39-520-KL	205 147 863 4	0.38	0.51	14.0	10.3	26.8	19.8	520	8.3	17.6	1.02	2.25

Non Reversible - Threaded shaft

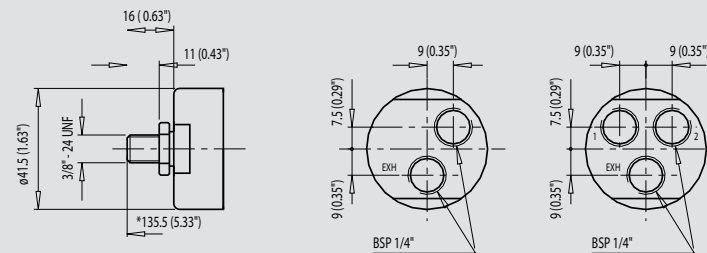
M39-19000-TL	205 147 864 4	0.39	0.52	0.4	0.3	0.76	0.56	19000	8.3	17.6	0.75	1.65
M39-5320-TL	205 147 865 4	0.39	0.52	1.4	1.0	2.7	2.0	5320	8.3	17.6	0.75	1.65
M39-2950-TL	205 147 866 4	0.39	0.52	2.6	1.9	4.9	3.6	2950	8.3	17.6	0.75	1.65
M39-2350-TL	205 147 867 4	0.39	0.52	3.2	2.3	6.1	4.5	2350	8.3	17.6	0.75	1.65
M39-1170-TL	205 147 868 4	0.38	0.51	6.3	4.6	12.0	8.9	1170	8.3	17.6	1.02	2.25
M39-650-TL	205 147 869 4	0.38	0.51	11.3	8.4	21.6	15.9	650	8.3	17.6	1.02	2.25
M39-520-TL	205 147 870 4	0.38	0.51	14.0	10.3	26.8	19.8	520	8.3	17.6	1.02	2.25

Reversible

MR39-13300-KL	205 147 871 4	0.24	0.32	0.34	0.25	0.46	0.34	13300	7.8	16.5	0.75	1.65
MR39-3650-KL	205 147 872 4	0.24	0.32	1.2	0.9	1.6	1.2	3650	7.8	16.5	0.75	1.65
MR39-1990-KL	205 147 873 4	0.24	0.32	2.1	1.6	3.0	2.2	1990	7.8	16.5	0.75	1.65
MR39-1670-KL	205 147 874 4	0.24	0.32	2.7	2.0	3.7	2.7	1670	7.8	16.5	0.75	1.65
MR39-800-KL	205 147 875 4	0.23	0.31	4.9	3.6	7.0	5.2	800	7.8	16.5	1.02	2.25
MR39-450-KL	205 147 876 4	0.23	0.31	9.1	6.7	12.6	9.3	450	7.8	16.5	1.02	2.25
MR39-360-KL	205 147 877 4	0.23	0.31	11.4	8.4	15.6	11.5	360	7.8	16.5	1.02	2.25

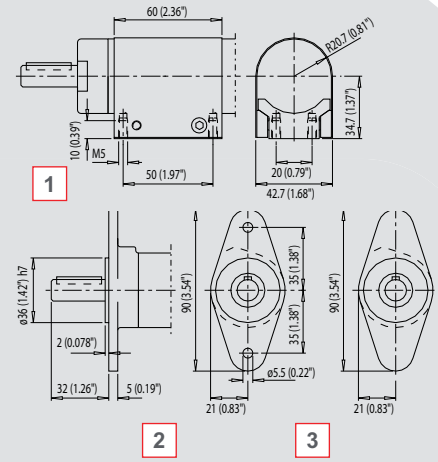


*(+33.5mm) for M39-1170, 650, 520 / MR39-800, 450, 360



Non Reversible

Reversible

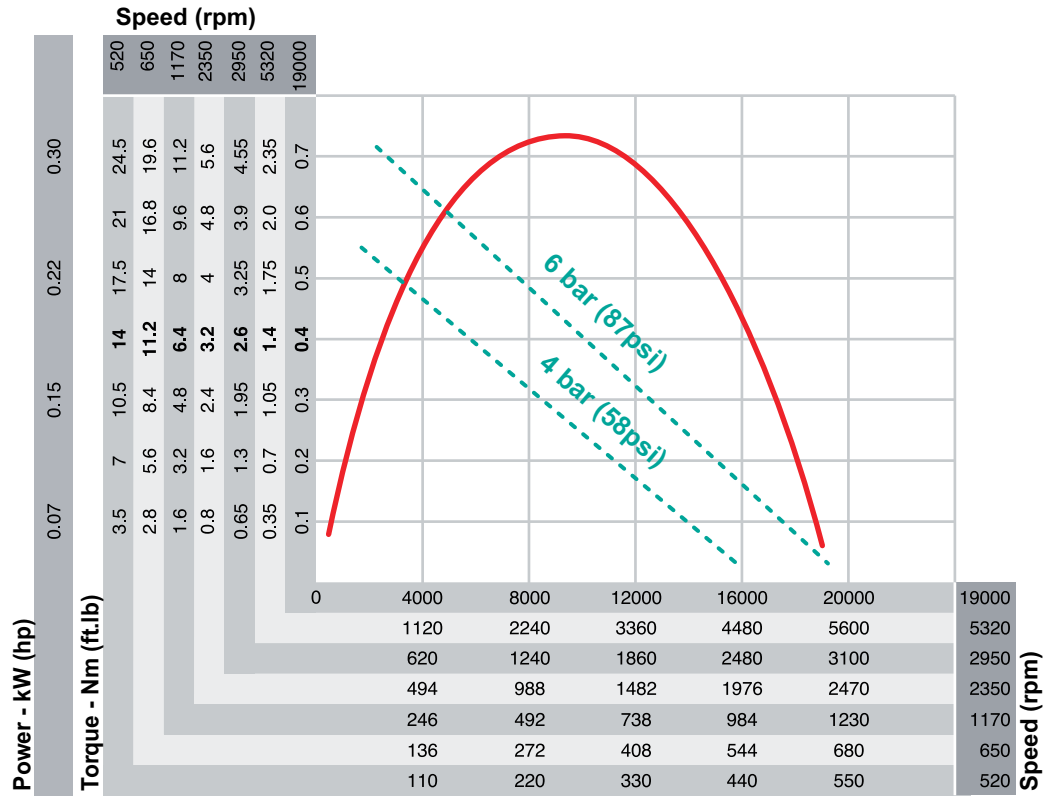


OPTIONAL ACCESSORIES

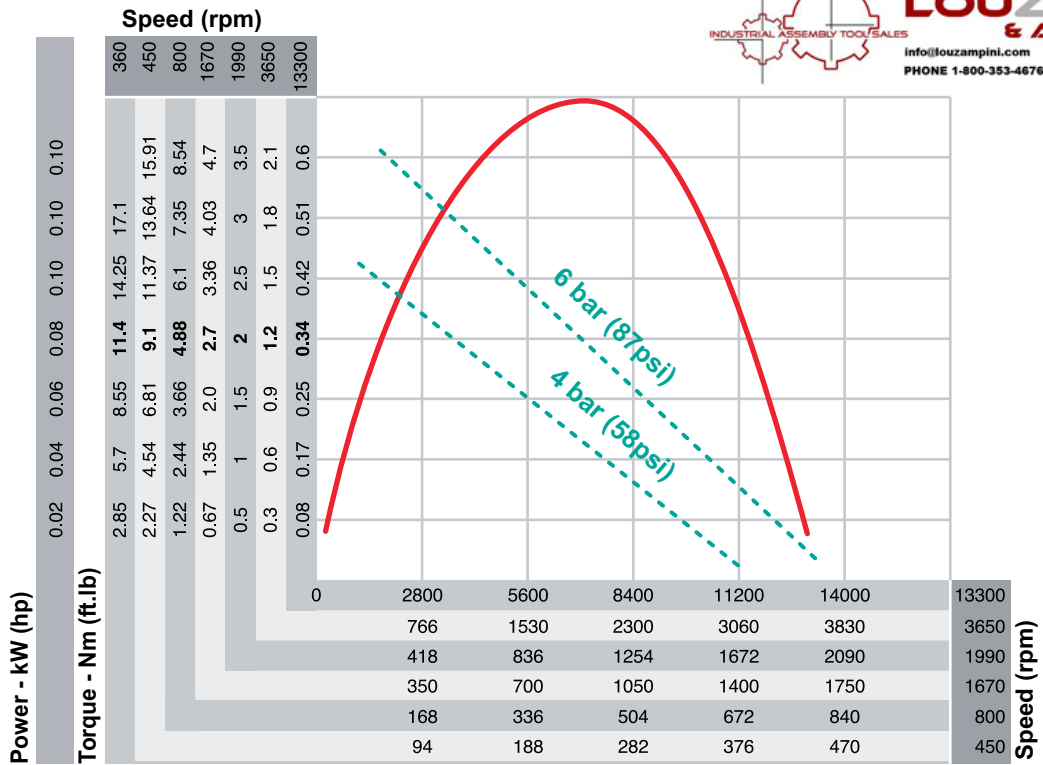
ITEM	PART NO.
1 Mounting foot	205 053 647 3
2 Mounting flange with holes	205 054 067 3
3 Mounting flange without holes	205 053 638 3

Other optional accessories: see page 30

M39-KL at air pressure 6.3 bar (91 psi)
Non Reversible



MR39-KL at air pressure 6.3 bar (91 psi)
Reversible





M39-KSL Series

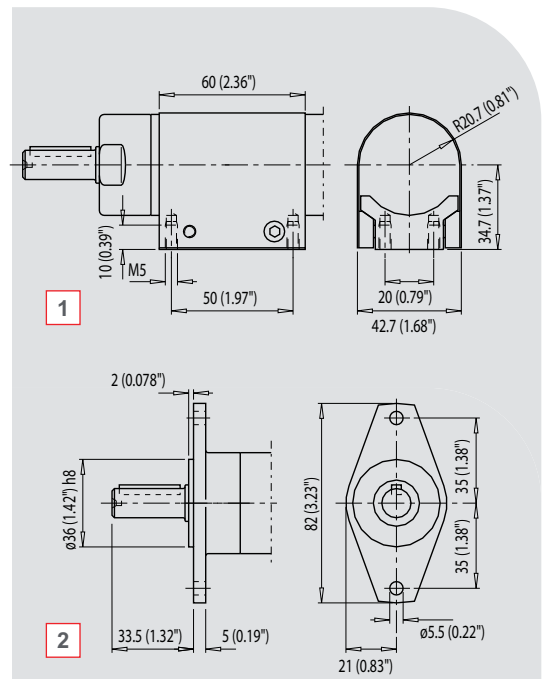
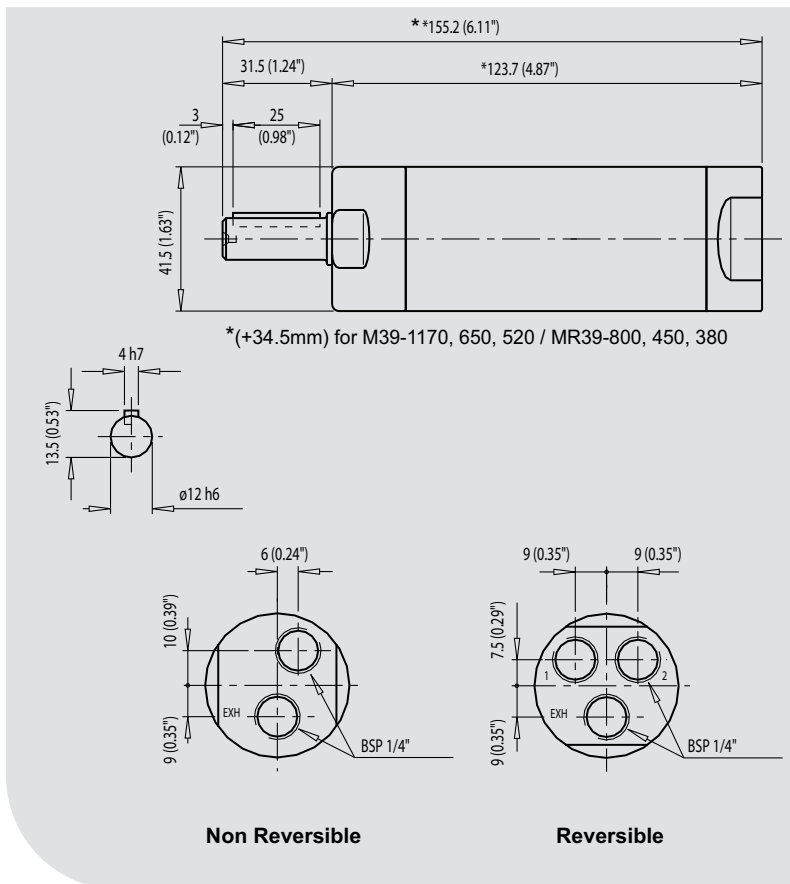
**0.23 to 0.39 kW (0.31 - 0.52 hp)
Stainless steel**

Ex For EX certification according to the ATEX directive (II 2G T5 IIC D85°C) use order PN. 205 054 07 3 (book as one order together with motor).



Air pressure 6.3 bar (91 psi)

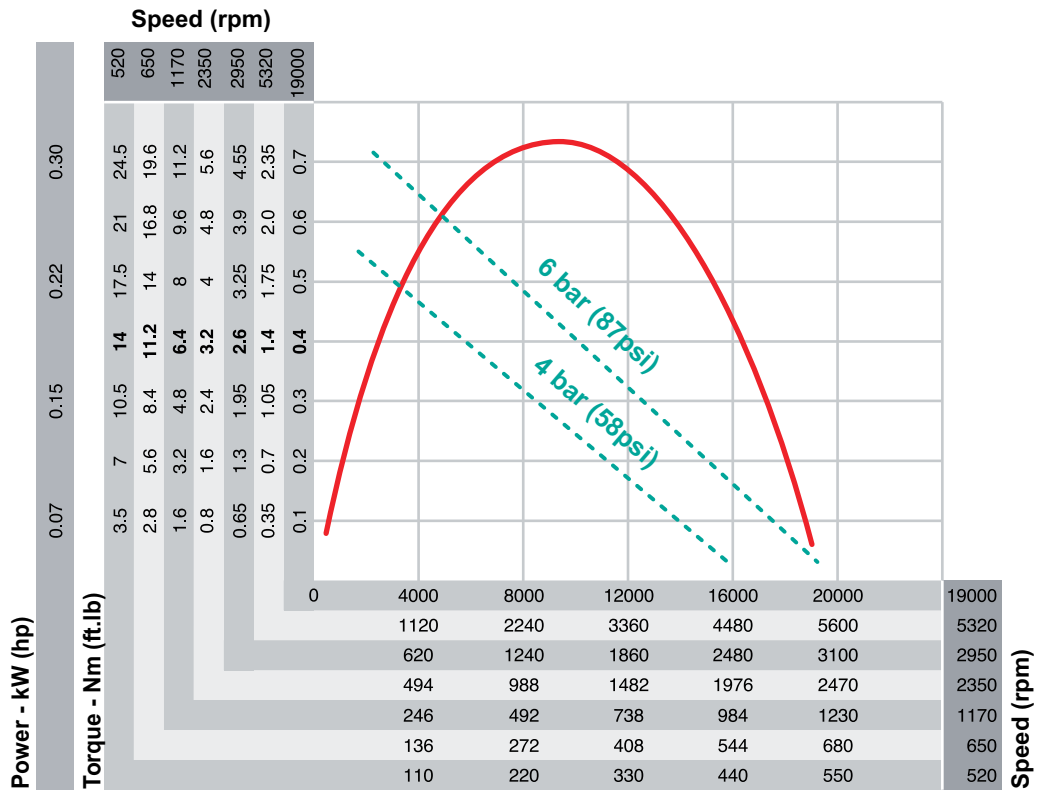
MODEL	PART NUMBER	MAX OUTPUT		TORQUE AT MAX OUTPUT		MINI STARTING TORQUE		FREE SPEED	AIR CONS. AT MAX OUTPUT		WEIGHT	
		kW	hp	Nm	ft.lb	Nm	ft.lb	rpm	l/s	cfm	kg	lb
Non Reversible												
M39-19000-KSL	205 147 878 4	0.39	0.52	0.4	0.3	0.76	0.56	19000	8.3	17.6	0.75	1.65
M39-5320-KSL	205 147 879 4	0.39	0.52	1.4	1.0	2.7	2.0	5320	8.3	17.6	0.75	1.65
M39-2950-KSL	205 147 880 4	0.39	0.52	2.6	1.9	4.9	3.6	2950	8.3	17.6	0.75	1.65
M39-2350-KSL	205 147 881 4	0.39	0.52	3.2	2.3	6.1	4.5	2350	8.3	17.6	0.75	1.65
M39-1170-KSL	205 147 882 4	0.38	0.51	6.3	4.6	12.0	8.9	1170	8.3	17.6	1.02	2.25
M39-650-KSL	205 147 883 4	0.38	0.51	11.3	8.4	21.6	15.9	650	8.3	17.6	1.02	2.25
M39-520-KSL	205 147 884 4	0.38	0.51	14.0	10.3	26.8	19.8	520	8.3	17.6	1.02	2.25
Reversible												
MR39-13300-KSL	205 147 885 4	0.24	0.32	0.34	0.25	0.46	0.34	13300	7.8	16.5	0.75	1.65
MR39-3650-KSL	205 147 886 4	0.24	0.32	1.2	0.9	1.6	1.2	3650	7.8	16.5	0.75	1.65
MR39-1990-KSL	205 147 887 4	0.24	0.32	2.1	1.6	3.0	2.2	1990	7.8	16.5	0.75	1.65
MR39-1670-KSL	205 147 884 4	0.24	0.32	2.7	2.0	3.7	2.7	1670	7.8	16.5	0.75	1.65
MR39-800-KSL	205 147 889 4	0.23	0.31	4.9	3.6	7.0	5.2	800	7.8	16.5	1.02	2.25
MR39-450-KSL	205 147 890 4	0.23	0.31	9.1	6.7	12.6	9.3	450	7.8	16.5	1.02	2.25
MR39-380-KSL	205 147 891 4	0.23	0.31	11.4	8.4	15.6	11.5	360	7.8	16.5	1.02	2.25



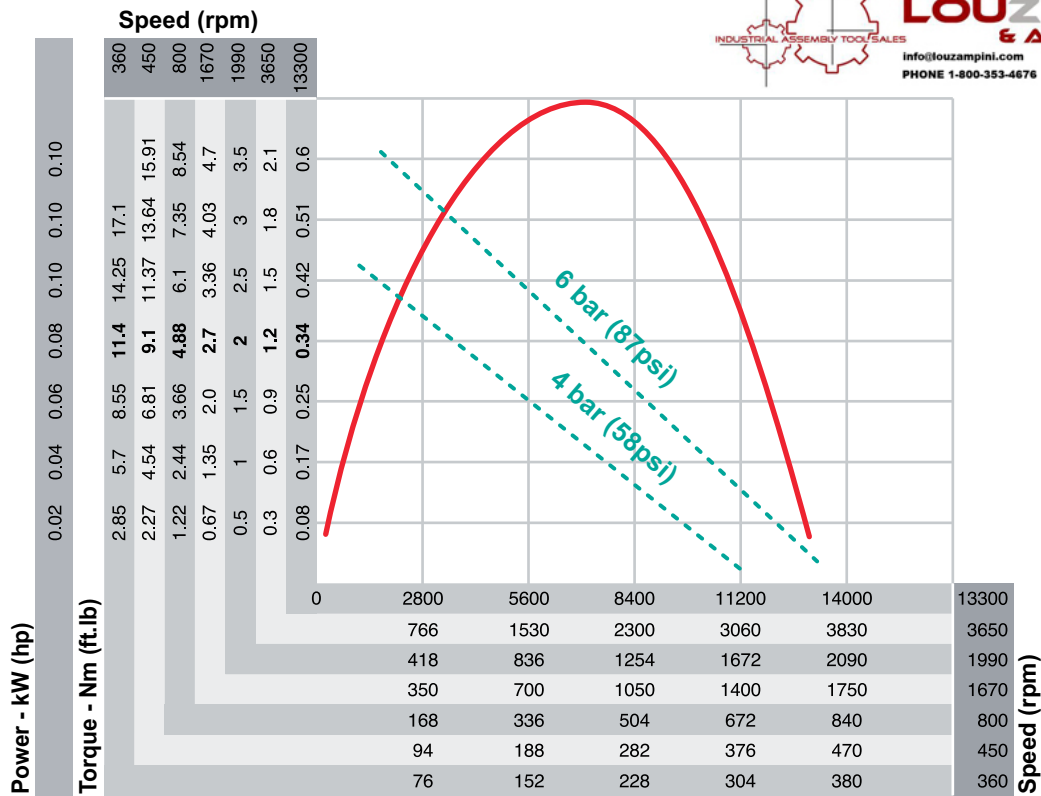
OPTIONAL ACCESSORIES	
ITEM	PART NO.
1 Mounting foot	205 053 647 3
2 Mounting flange	205 053 643 3

Other optional accessories: see page 30

M39-KSL at air pressure 6.3 bar (91 psi)
Non Reversible



MR39-KSL at air pressure 6.3 bar (91 psi)
Reversible



LOUZAMPINI & ASSOCIATES
 info@louzampini.com www.louzampini.com
 PHONE 1-800-353-4676 FAX 1-401-353-0113

M84-K Series

0.58 to 0.84 kW (0.78 - 1.13 hp)



For EX certification according to the ATEX directive (II 2G T4 IIC D110°C) use order PN. 205 054 076 3 (book as one order together with motor).



Air pressure 6.3 bar (91 psi)

MODEL	PART NUMBER	MAX OUTPUT		TORQUE AT MAX OUTPUT		MINI STARTING TORQUE		FREE SPEED	AIR CONS. AT MAX OUTPUT		WEIGHT	
		kW	hp	Nm	ft.lb	Nm	ft.lb	rpm	l/s	cfm	kg	lb
Non Reversible												
M84-21000-K	205 147 912 4	0.84	1.13	0.74	0.55	1.2	0.88	21000	16.5	35	1.2	2.6
M84-6700-K	205 147 913 4	0.84	1.13	2.4	1.8	3.9	2.9	6700	16.5	35	1.2	2.6
M84-4200-K	205 147 914 4	0.84	1.13	3.8	2.8	6.2	4.6	4200	16.5	35	1.2	2.6
M84-2550-K	205 147 915 4	0.84	1.13	6.3	4.6	10	7.4	2550	16.5	35	1.2	2.6
M84-1500-K	205 147 916 4	0.83	1.11	10.6	7.8	16	12	1500	16.5	35	1.3	2.9
M84-960-K	205 147 917 4	0.83	1.11	17	12	25	18	960	16.5	35	1.3	2.9
M84-570-K	205 147 918 4	0.83	1.11	27	20	45	33	570	16.5	35	1.3	2.9
M84-320-K	205 147 919 4	0.81	1.09	48	35	75	55	320	16.5	35	2.7	6.0
M84-200-K	205 147 920 4	0.81	1.09	75	55	120	88	200	16.5	35	2.7	6.0
M84-125-K	205 147 921 4	0.81	1.09	125	92	200	150	125	16.5	35	2.7	6.0
M84-80-K	205 147 922 4	0.79	1.06	190	140	310	230	80	16.5	35	4.9	10.8
M84-50-K	205 147 923 4	0.79	1.06	300	220	490	360	50	16.5	35	4.9	10.8

Reversible

MR84-17000-K	205 147 924 4	0.62	0.83	0.68	0.5	0.75	0.55	17000	14.5	31	1.2	2.6
MR84-5250-K	205 147 925 4	0.62	0.83	2.2	1.6	2.5	1.8	5250	14.5	31	1.2	2.6
MR84-3350-K	205 147 926 4	0.62	0.83	3.5	2.6	4.0	2.6	3350	14.5	31	1.2	2.6
MR84-2000-K	205 147 927 4	0.62	0.83	5.8	4.3	6.5	4.8	2000	14.5	31	1.2	2.6
MR84-1170-K	205 147 928 4	0.61	0.82	9.8	7.2	10.5	7.7	1170	14.5	31	1.3	2.9
MR84-750-K	205 147 929 4	0.61	0.82	15	11	16	12	750	14.5	31	1.3	2.9
MR84-450-K	205 147 930 4	0.61	0.82	25	18	27	20	450	14.5	31	1.3	2.9
MR84-250-K	205 147 931 4	0.60	0.80	44	32	48	35	250	14.5	31	2.7	6.0
MR84-160-K	205 147 932 4	0.60	0.80	70	52	75	55	160	14.5	31	2.7	6.0
MR84-95-K	205 147 933 4	0.60	0.80	115	85	125	92	95	14.5	31	2.7	6.0
MR84-62-K	205 147 934 4	0.58	0.78	175	130	190	140	62	14.5	31	4.9	10.8
MR84-40-K	205 147 935 4	0.58	0.78	275	200	300	220	40	14.5	31	4.9	10.8



With Mounting Flange



With Mounting Foot



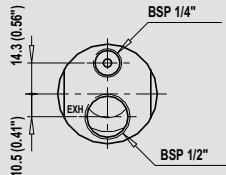
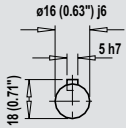
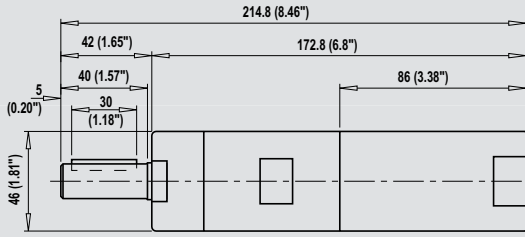
Curves:
see page 22

Non Reversible

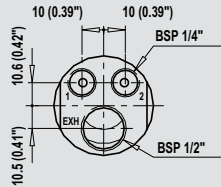
- M84-21000-K
- M84-6700-K
- M84-4200-K
- M84-2550-K
- M84-1500-K
- M84-960-K
- M84-570-K

Reversible

- MR84-17000-K
- MR84-5250-K
- MR84-3350-K
- MR84-2000-K
- MR84-1170-K
- MR84-750-K
- MR84-450-K



Non Reversible



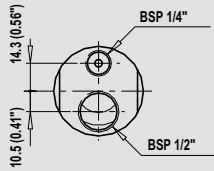
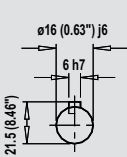
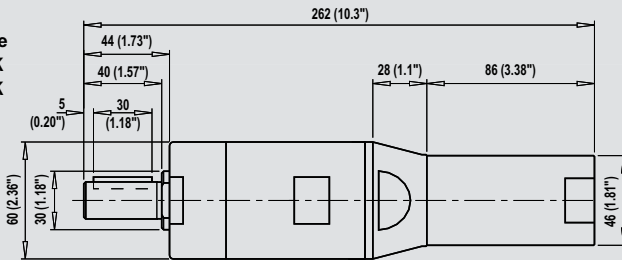
Reversible

Non Reversible

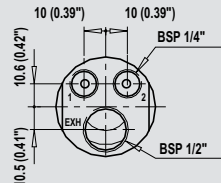
- M84-320-K
- M84-200-K
- M84-125-K

Reversible

- MR84-250-K
- MR84-160-K
- MR84-95-K



Non Reversible



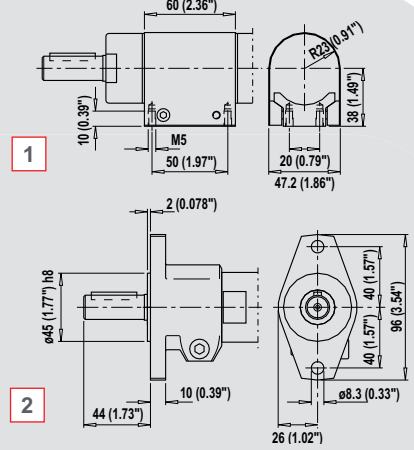
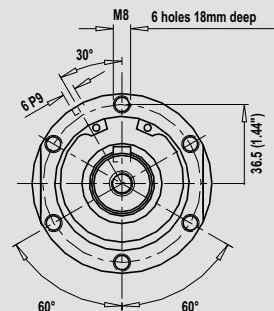
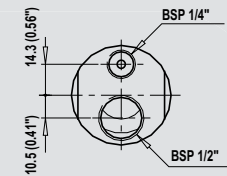
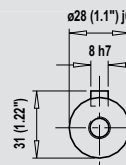
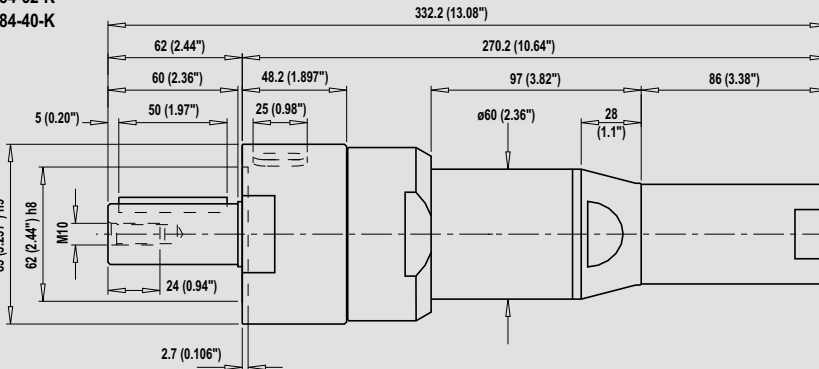
Reversible

Non Reversible

- M84-80-K
- M84-50-K

Reversible

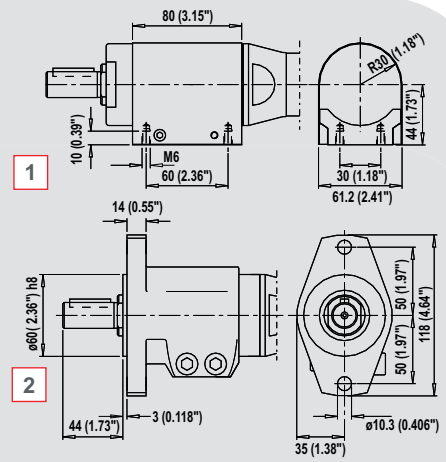
- MR84-62-K
- MR84-40-K



OPTIONAL ACCESSORIES

ITEM	PART NO.
1 Mounting foot	205 053 650 3
2 Mounting flange	205 053 641 3

Other optional accessories: see page 30

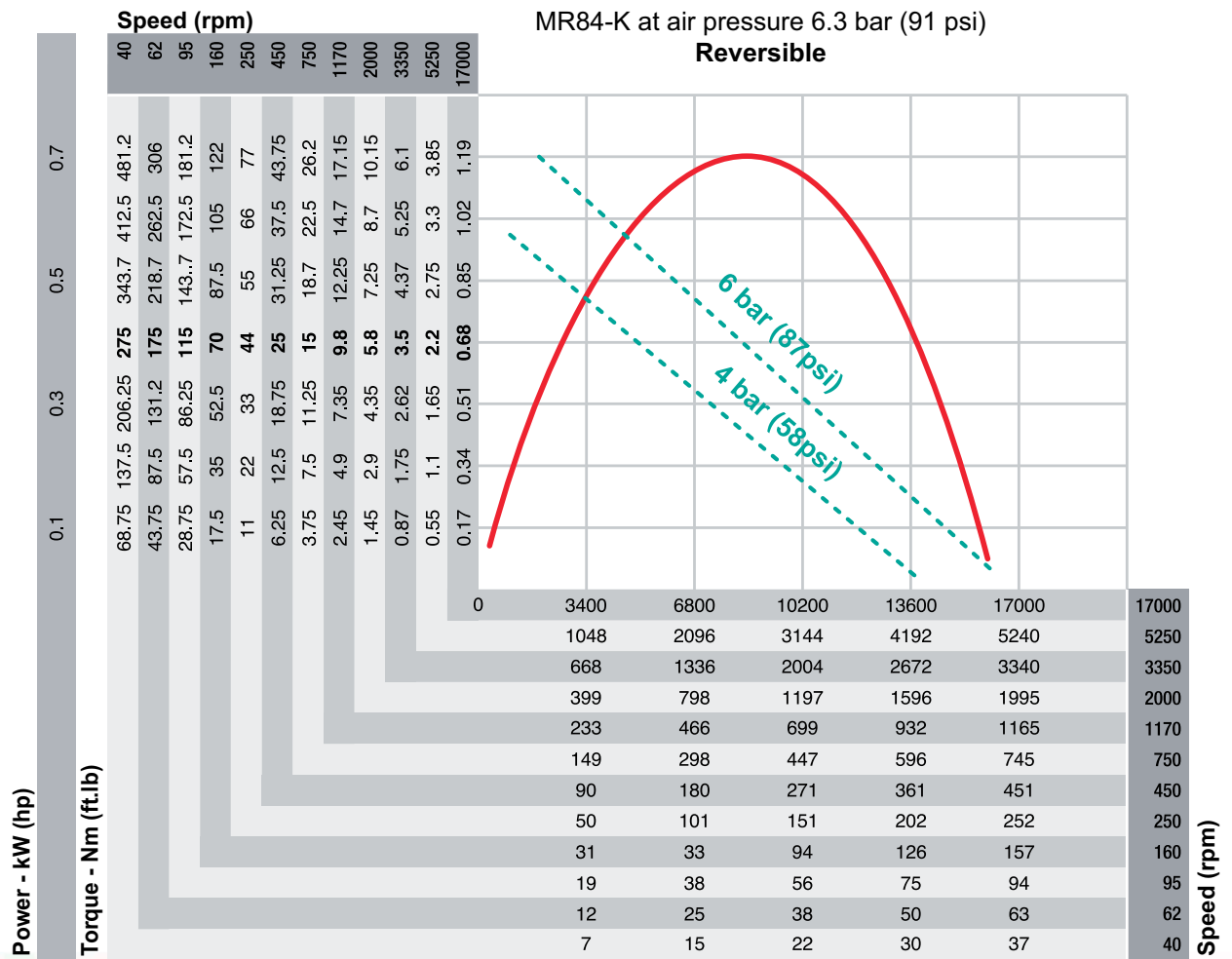
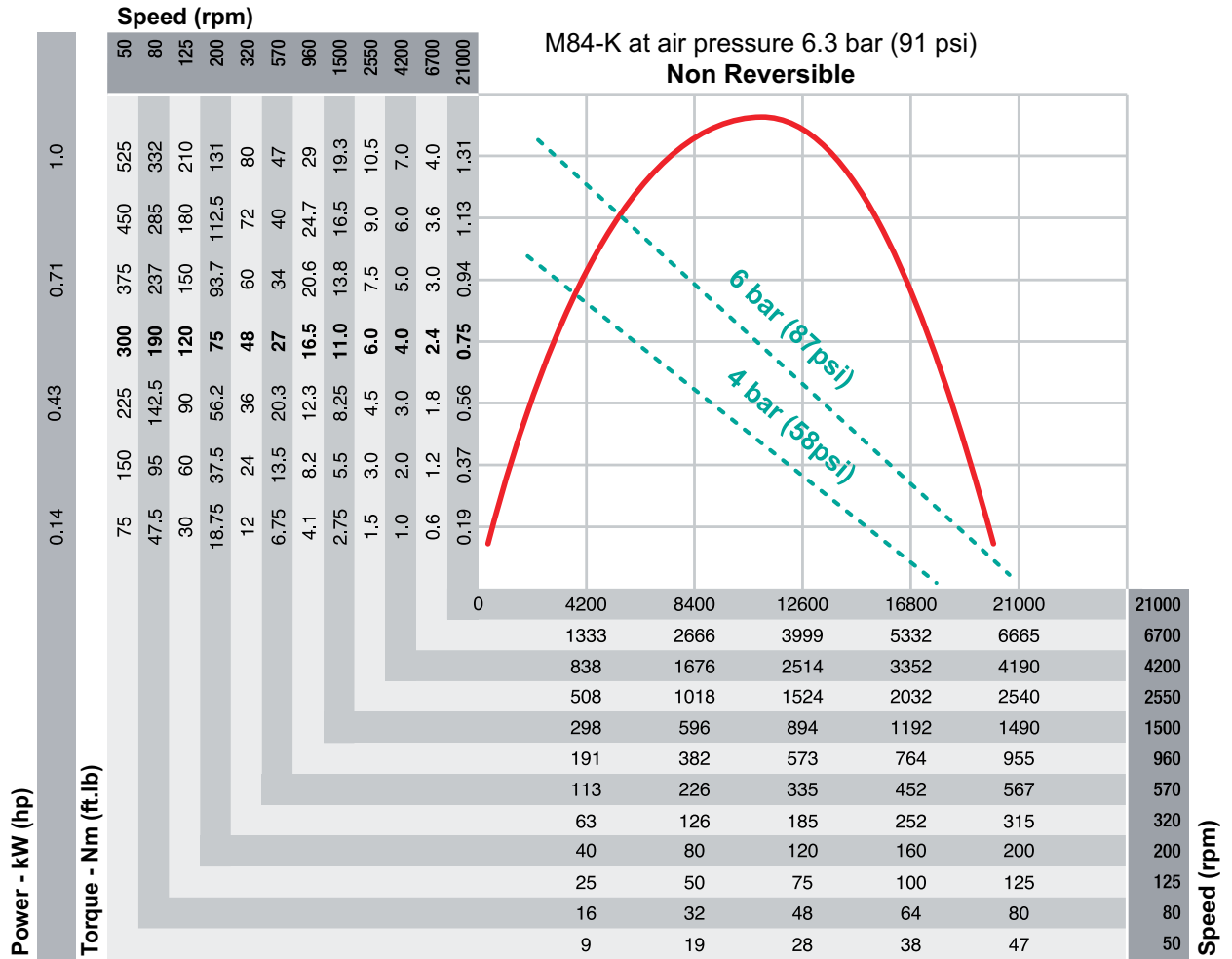


OPTIONAL ACCESSORIES

ITEM	PART NO.
1 Mounting foot	205 053 648 3
2 Mounting flange	205 053 642 3

Other optional accessories: see page 30

M84-K Series



Serie 2H410

0.66 kw (0.85 ft.lb)

Maximum Torque 102 Nm (78 lbf-ft), Worm Drive Motors



For EX certification according to the ATEX directive (II 2G c IIC T6)

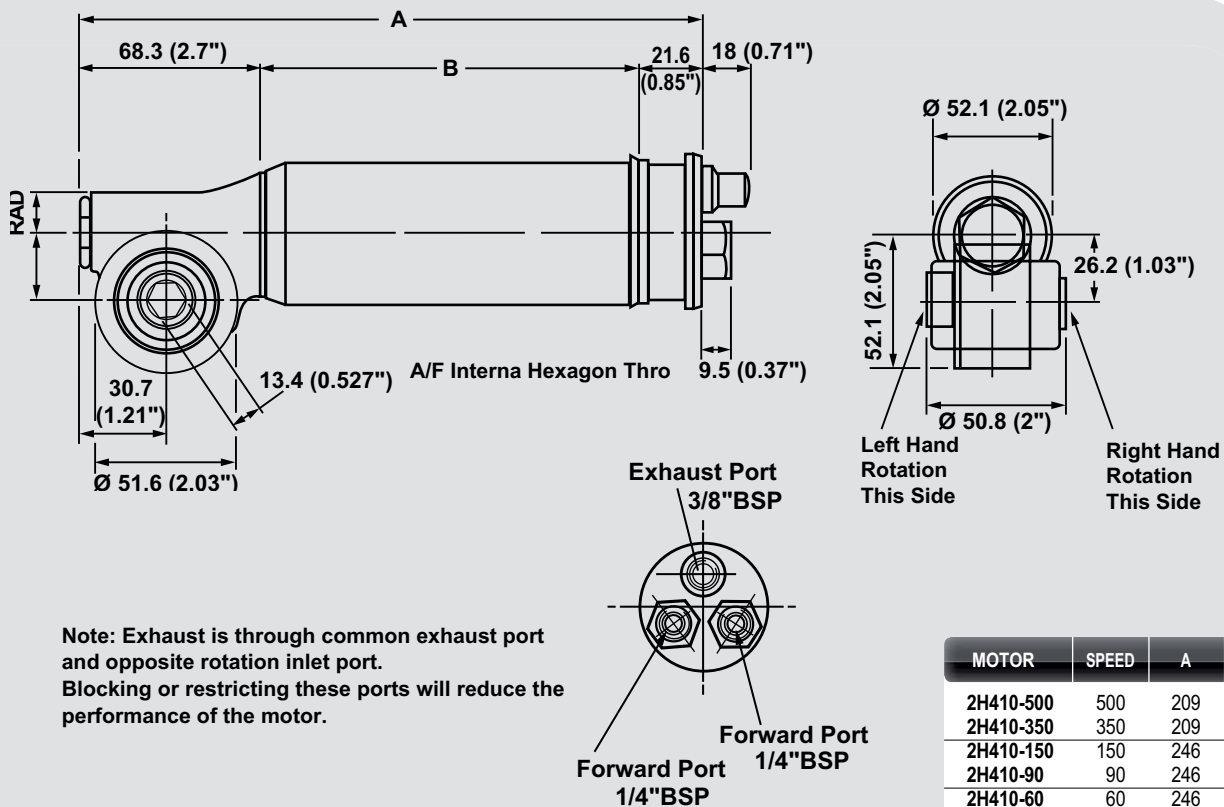
Air pressure 6.3 bar (91 psi)

MODEL	PART NUMBER	MAX OUTPUT		NO LOADE SPEED	TORQUE AT MAX OUTPUT		MIN HOSE BORE PRESSURE		MIN SAFE WORKING	MAX AIR CONSUMPTION		WEIGHT	
		kw	hp		min-1	Nm	ft.lb	mm		in.	bar	l/s	cfm

Reversible

2H410-500	1307664	0.66	0.85	500	39	28.8	12	1/2	6	17	36	1.7	3.7
2H410-350	1307744	0.66	0.85	350	51	37.6	12	1/2	6	17	36	1.7	3.7
2H410-150	1307824	0.66	0.85	150	102	75.2	12	1/2	6	17	36	2.0	4.4
2H410-90	1307904	0.66	0.85	90	102	75.2	10	3/8	4	10	21	2.0	4.4
2H410-60	1308034	0.66	0.85	60	102	75.2	10	3/8	2.8	9	19	2.0	4.4
2H410-500 ATEX	205 147 319 4	0.66	0.85	500	39	28.8	12	1/2	6	17	36	1.7	3.7
2H410-350 ATEX	205 147 320 4	0.66	0.85	350	51	37.6	12	1/2	6	17	36	1.7	3.7
2H410-150 ATEX	205 147 321 4	0.66	0.85	150	102	75.2	12	1/2	6	17	36	2.0	4.4
2H410-90 ATEX	205 147 322 4	0.66	0.85	90	102	75.2	10	3/8	4	10	21	2.0	4.4
2H410-60 ATEX	205 147 323 4	0.66	0.85	60	102	75.2	10	3/8	2.8	9	19	2.0	4.4

The 2H410 motor can also be supplied equipped with a worm drive gearbox, allowing the drive to be taken from each side of the head for either right hand or left hand rotation. The standard output is 13.33mm (0.527") size on flats internal hexagon. 3/8" or 1/2" square adaptors are available as an option.





M180 Series

1.40 - 1.83 kW (1.88 - 2.45 hp)



For **EX certification** according to the **ATEX directive** (II 2G T4 IIC D110°C) use order **PN. 205 054 076 3** (book as one order together with motor).



Air pressure 6.3 bar (91 psi)

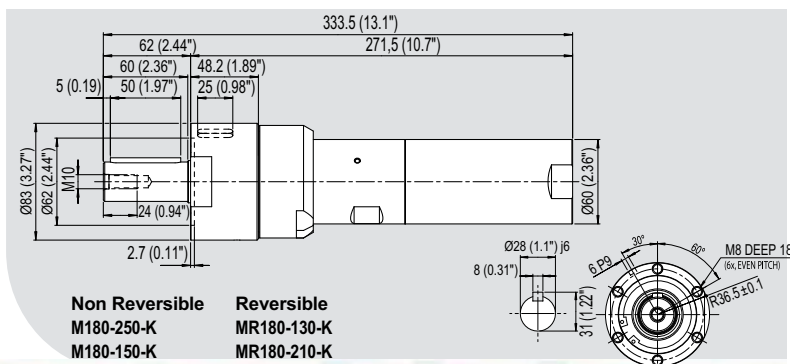
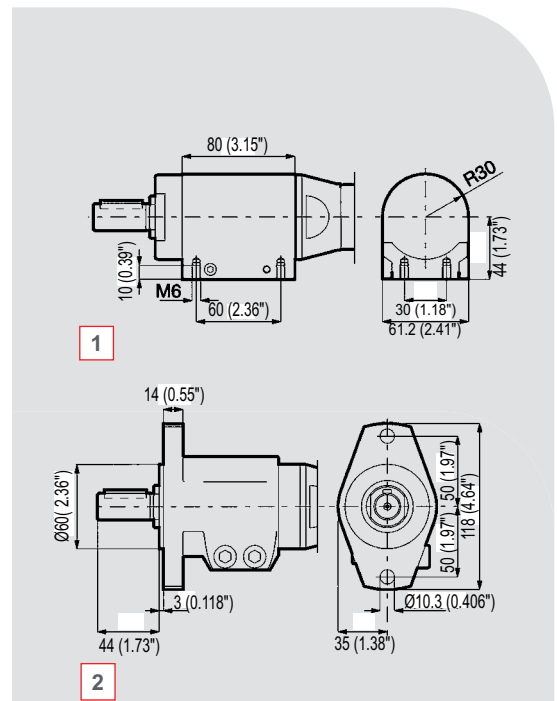
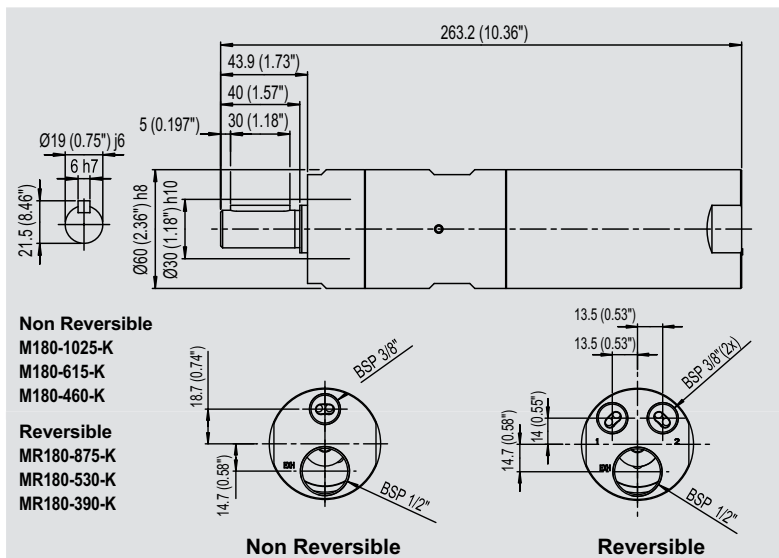
MODEL	PART NUMBER	MAX OUTPUT	TORQUE AT MAX OUTPUT	MIN STARTING TORQUE	FREE SPEED	AIR CONS. AT MAX OUTPUT	WEIGHT
-------	-------------	------------	----------------------	---------------------	------------	-------------------------	--------

Non Reversible

M180-1025-K	205 147 972 4	1.83	2.45	33	24	52	39	1025	36	76.3	2.9	6.4
M180-615-K	205 147 973 4	1.83	2.45	55	41	86	64	615	36	76.3	2.9	6.4
M180-460-K	205 147 974 4	1.83	2.45	74	55	117	87	460	36	76.3	2.9	6.4
M180-250-K	205 147 976 4	1.80	2.41	135	100	217	160	250	36	76.3	5.1	11.1
M180-150-K	205 147 978 4	1.80	2.41	222	164	333	245	150	36	76.3	5.1	11.1
M180-250-K-SI	205 147 975 4	1.80	2.41	135	100	217	160	250	36	76.3	5.3	11.7
M180-150-K-SI	205 147 977 4	1.80	2.41	222	164	333	245	150	36	76.3	5.3	11.7

Reversible

MR180-875-K	205 147 965 4	1.43	1.92	29	22	46	33	875	31	65.7	2.9	6.4
MR180-530-K	205 147 966 4	1.43	1.92	47	35	75	55	530	31	65.7	2.9	6.4
MR180-390-K	205 147 967 4	1.43	1.92	64	48	101	75	390	31	65.7	2.9	6.4
MR180-210-K	205 147 969 4	1.40	1.88	116	86	308	227	210	31	65.7	5.1	11.1
MR180-130-K	205 147 971 4	1.40	1.88	190	141	187	138	130	31	65.7	5.1	11.1
MR180-210-K-SI	205 147 968 4	1.40	1.88	116	86	308	227	210	31	65.7	5.3	11.7
MR180-130-K-SI	205 147 970 4	1.40	1.88	190	141	187	138	130	31	65.7	5.3	11.7

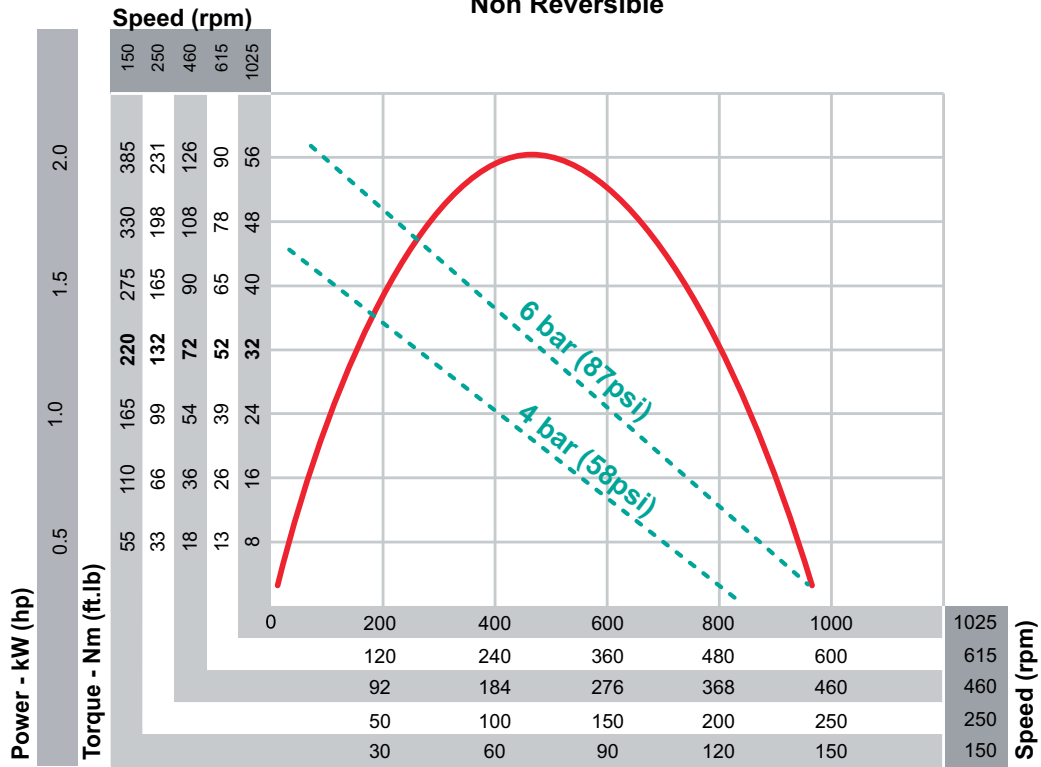


OPTIONAL ACCESSORIES

ITEM	PART NO.
1 Mounting foot	205 053 648 3
2 Mounting flange	205 053 642 3

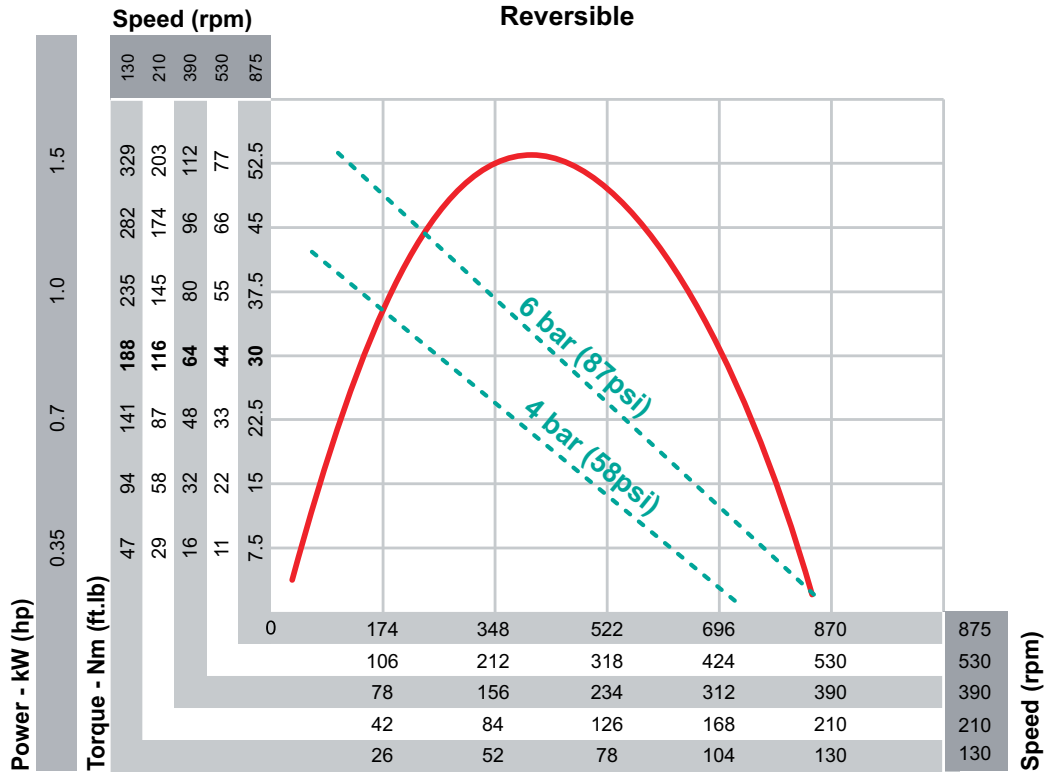
Other optional accessories: see page 30

M180 at air pressure 6.3 bar (91 psi)
Non Reversible



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MR180 at air pressure 6.3 bar (91 psi)
Reversible





M290 Series

2.52 - 2.91 kW (3.38 - 3.90 hp)

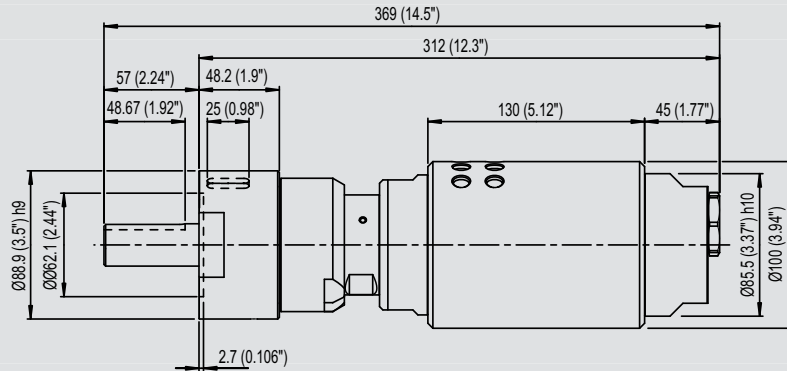


For EX certification according to the ATEX directive (II 2G T4 IIC D110°C) use order PN. 205 054 076 3 (book as one order together with motor).



Air pressure 6.3 bar (91 psi)

MODEL	PART NUMBER	MAX OUTPUT		TORQUE AT MAX OUTPUT		MIN STARTING TORQUE		FREE SPEED	AIR CONS. AT MAX OUTPUT		WEIGHT	
		kW	hp	Nm	ft.lb	Nm	ft.lb	rpm	l/s	cfm	kg	lb
Non Reversible												
M290-2660-K-SI	205 147 962 4	2.91	3.90	21	15.5	30	22	2660	55	116	8.4	18.5
M290-680-K-SI	205 147 963 4	2.91	3.90	81	60	120	89	680	55	116	8.4	18.5
M290-174-K-SI	205 147 964 4	2.86	3.84	314	231	471	347	174	55	116	8.7	19.1
Reversible												
MR290-2500-K-SI	205 147 959 4	2.56	3.43	20	15	29	21	2500	51	108	8.4	18.5
MR290-630-K-SI	205 147 960 4	2.56	3.43	77	57	115	85	630	51	108	8.4	18.5
MR290-158-K-SI	205 147 961 4	2.52	3.38	304	224	456	336	158	51	108	8.7	19.1



BSP 1/2" OR NPTF 1/2"-14

23 ±0.1

Non Reversible

57.3° ±0.1° (2x)
R23 ±0.1

Reversible

BSP 1/2" OR NPTF 1/2"-14

35 (0.25")

.4 (1")

5/16-18 UNC DEPTH 11 (6x)

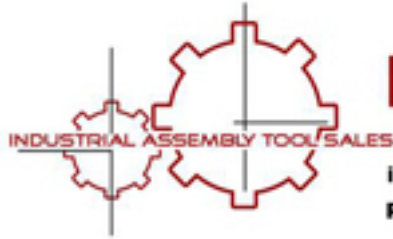
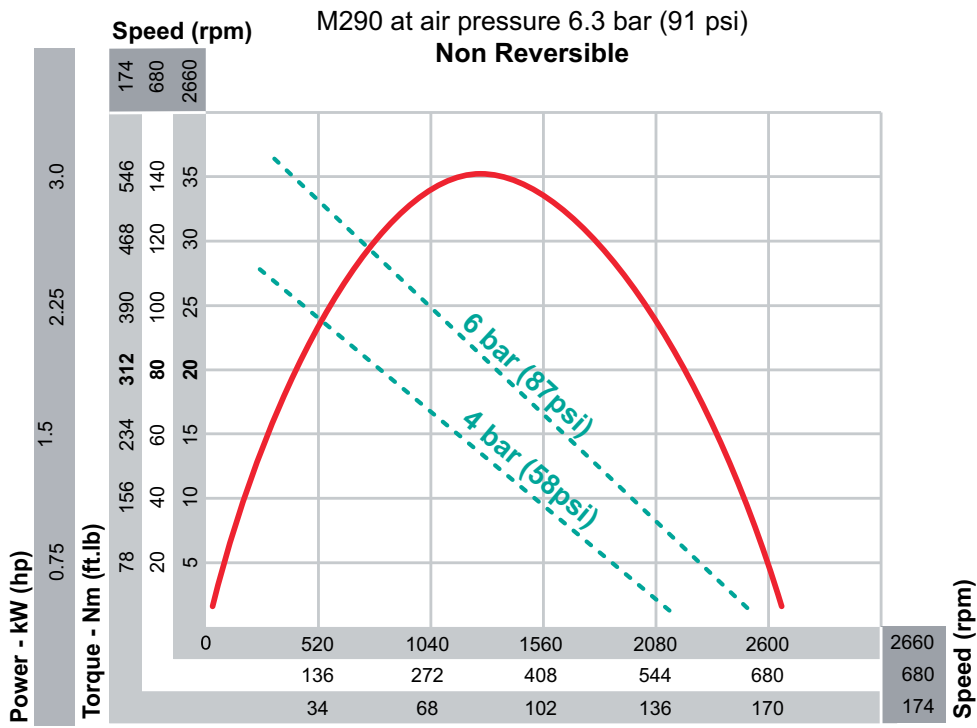
21.8 (0.86")

R38.1 ±0.1

30°

6 Py

60°



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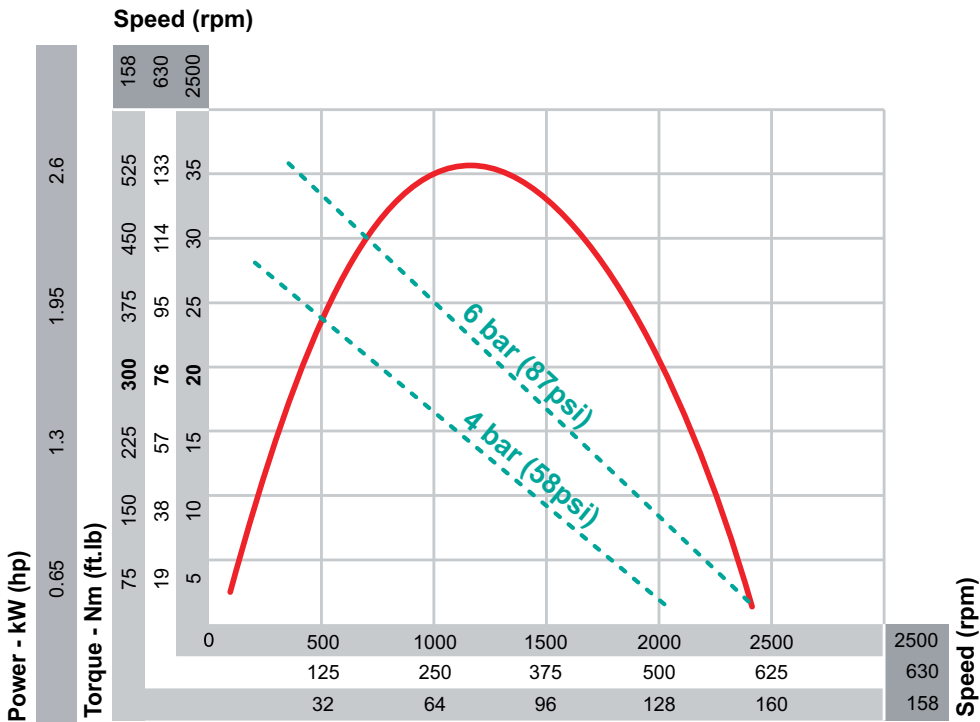
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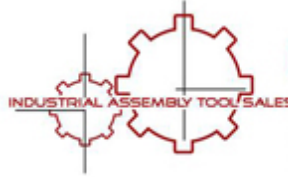
MR290 at air pressure 6.3 bar (91 psi)
Reversible



Fuji line

Fuji Air Motors are :

- Compact
- Lightweight
- Sturdy
- High power to weight ratios
- And offer...



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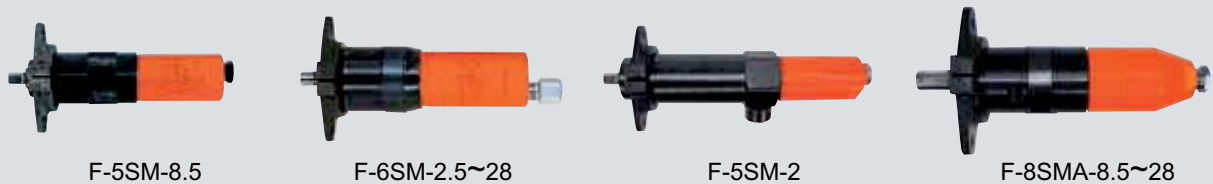
REVERSIBLE



Model	Stall torque			Hose Power		Free Speed min ⁻¹	Overall Length		Weight		Max Air Consumption		Air Inlet Thread Size BSP or NPT	Air Hose Size	
	N • m	kgf • m	ft • lbf	W	PS		mm	in	kg	lb	m ³ /min	ft ³ /min		mm	in
F-5SM-8.5R	5.4	0.55	4.0	0.12	0.16	850	147	5 51/64	0.6	1.3	0.28	9.9	1/8	6.3	1/4
F-5SM-2R	21.6	2.20	15.9	0.10	0.14	190	182	7 11/16	0.8	1.8	0.28	9.9	1/8	6.3	1/4
F-6SM-28R	3.3	0.34	2.5	0.25	0.34	2,300	147	5 51/64	0.8	1.8	0.34	12.0	1/8	8.0	5/16
F-6SM-21R	4.0	0.41	3.0	0.26	0.35	2,000	146	5 3/4	0.9	2.0	0.34	12.0	1/8	8.0	5/16
F-6SM-12R	5.9	0.60	4.3	0.23	0.31	1,000	157	6 3/16	0.8	1.8	0.34	12.0	1/8	8.0	5/16
F-6SM-8R	9.8	1.00	7.2	0.23	0.31	750	179	7 1/16	1.0	2.2	0.34	12.0	1/8	8.0	5/16
F-6SM-5R	14.7	1.50	10.8	0.22	0.30	500	180	7 3/32	1.0	2.2	0.34	12.0	1/8	8.0	5/16
F-6SM-2.5R	26.0	2.65	19.2	0.21	0.29	250	192	7 9/16	1.2	2.6	0.34	12.0	1/8	8.0	5/16
F-8SM-28R	6.4	0.65	4.7	0.38	0.52	2,300	183	7 13/64	1.5	3.3	0.50	17.7	1/4	9.5	3/8
F-8SM-12R	9.8	1.00	7.2	0.37	0.50	1,100	199	7 53/64	2.2	4.8	0.50	17.7	1/4	9.5	3/8
F-8SM-8.5R	14.7	1.50	10.8	0.37	0.50	850	222	8 3/4	2.4	5.3	0.50	17.7	1/4	9.5	3/8

* Specify type of spindle when ordering

NON REVERSIBLE



Model	Stall torque			Horse Power		Free Speed min ⁻¹	Overall Length		Weight		Max Air Consumption		Air Inlet Thread Size BSP or NPT	Air Hose Size	
	N • m	kgf • m	ft • lbf	W	PS		mm	in	kg	lb	m ³ /min	ft ³ /min		mm	in
F-5SM-8.5	5.9	0.60	4.3	0.13	0.18	950	153	6 1/32	0.6	1.3	0.28	9.9	1/8	6.3	1/4
F-5SM-2	23.5	2.40	17.4	0.12	0.16	200	187	7 3/8	0.9	2.0	0.28	9.9	1/8	6.3	1/4
F-6SM-28	3.9	0.40	2.9	0.29	0.40	2,800	167	6 37/64	0.7	1.5	0.34	12.0	1/4	9.5	3/8
F-6SM-21	4.4	0.45	3.3	0.29	0.40	2,400	167	6 37/64	0.8	1.8	0.34	12.0	1/4	9.5	3/8
F-6SM-12	7.4	0.75	5.4	0.29	0.40	1,300	181	7 1/8	0.9	2.0	0.34	12.0	1/4	9.5	3/8
F-6SM-8	10.8	1.10	8.0	0.26	0.35	900	200	7 7/8	1.0	2.2	0.34	12.0	1/4	9.5	3/8
F-6SM-5	15.7	1.60	11.6	0.26	0.35	600	200	7 7/8	1.0	2.2	0.34	12.0	1/4	9.5	3/8
F-6SM-2.5	28.4	2.90	21.0	0.26	0.35	300	213	8 25/64	1.2	2.6	0.34	12.0	1/4	9.5	3/8
F-8SMA-28	5.9	0.60	4.3	0.44	0.60	2,600	171	6 47/64	1.5	3.3	0.50	17.7	1/4	9.5	3/8
F-8SMA-12	11.8	1.20	8.7	0.44	0.60	1,300	200	7 7/8	2.0	4.4	0.50	17.7	1/4	9.5	3/8
F-8SMA-8.5	16.7	1.70	12.3	0.44	0.60	900	208	8 3/16	2.2	4.8	0.50	17.7	1/4	9.5	3/8

* Specify type of spindle when ordering

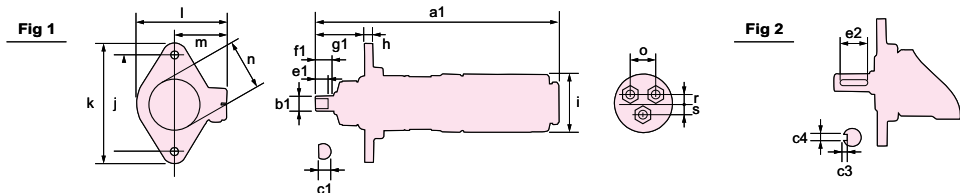


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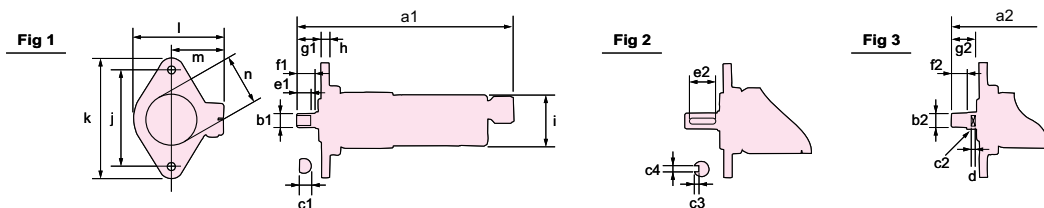
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Fuji line Dimensions



AIR MOTORS Reversible Type

Fig No.	Model	a1	b1	c1	c3	c4	e1	e2	f1	g1	h	i	j	k	l	m	n	o	r	s
49-1	F-5SM-8.5R	147	8	7.0	-	-	10	-	12	20.0	5	40	60	74	55	33	35	18	6.5	8.0
49-1	F-5SM-2R	180	8	7.0	-	-	10	-	12	25.0	5	40	60	74	55	33	35	18	6.5	8.0
49-1	F-6SM-28R	146	10	8.5	-	-	12	-	14	19.0	6	42	70	88	64	38	39	20	6.5	8.0
49-1	F-6SM-21R	146	10	8.5	-	-	12	-	14	19.0	6	42	70	88	64	38	38	20	6.5	8.0
49-1	F-6SM-12R	157	10	8.5	-	-	12	-	14	18.0	6	42	70	88	64	38	39	20	6.5	8.0
49-1	F-6SM-8R	179	10	8.5	-	-	12	-	14	36.0	6	42	70	88	64	38	39	20	6.5	8.0
49-1	F-6SM-5R	179	10	8.5	-	-	12	-	14	36.0	6	42	70	88	64	38	38	20	6.5	8.0
49-1	F-6SM-2.5R	192	10	8.5	-	-	12	-	14	36.0	6	42	70	88	64	38	38	20	6.5	8.0
49-2	F-8SM-28R	183	12	-	2.5	4.0	-	18	25	29.0	6	58	70	88	64	38	45	26	11.0	17.0
49-2	F-8SM-12R	199	12	-	2.5	4.0	-	18	25	49.0	8	58	90	114	81	48	52	26	11.0	17.0
49-2	F-8SM-8.5R	222	16	-	3.0	5.0	-	25	32	46.5	8	58	90	114	81	48	51	26	11.0	17.0



Non Reversible Type

Fig No.	Model	a1	b1	c1	c3	c4	e1	e2	f1	g1	h	i	j	k	l	m	n	a2	b2	c2	d	f2	g2
50-1	F-5SM-8.5	152	8	7.0	-	-	10	-	12	20.0	5	32	60	74	55	33	35	-	-	-	-	-	-
50-1	F-5SM-2	185	8	7.0	-	-	10	-	12	25.0	5	32	60	74	55	33	35	-	-	-	-	-	-
50-1,3	F-6SM-28	167	10	8.5	-	-	12	-	14	19.0	6	38	70	88	64	38	39	169	3/8-24	10	4	12	21.0
50-1,3	F-6SM-21	167	10	8.5	-	-	12	-	14	19.0	6	38	70	88	64	38	39	167	3/8-24	10	4	12	19.0
50-1,3	F-6SM-12	178	10	8.5	-	-	12	-	14	18.0	6	38	70	88	64	38	41	178	3/8-24	10	4	12	18.0
50-1,3	F-6SM-8	200	10	8.5	-	-	12	-	14	36.0	6	38	70	88	64	38	38	200	3/8-24	14	5	12	36.0
50-1,3	F-6SM-5	200	10	8.5	-	-	12	-	14	36.0	6	38	70	88	64	38	38	200	3/8-24	14	5	12	36.0
50-1,3	F-6SM-2.5	213	10	8.5	-	-	12	-	14	36.0	6	38	70	88	64	38	38	214	3/8-24	14	5	12	36.0
50-2,3	F-8SMA-28	181	12	-	2.5	4.0	-	18	25	30.0	6	50	70	88	64	38	43	173	3/8-24	12	5	12	20.0
50-2,3	F-8SMA-12	200	12	-	2.5	4.0	-	18	25	28.0	8	50	90	114	81	48	51	189	3/8-24	12	5	12	17.0
50-2,3	F-8SMA-8.5	222	16	-	3.0	5.0	-	25	32	46.5	8	50	90	114	81	48	51	208	1/2-20	14	6	15	32.5

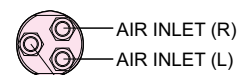
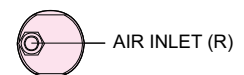
Type of Spindle

Chord Type	Key Type	Thread Type		
Model	Model	*Model	Spindle Thread Size	Applicable Drill Chuck
F-5SM Series	F-8SMA Series	F-6SM-5, 8, 12, 21 F-8SMA-12,28 F-6SE, 6SF, 6PFX	3/8-24(UNF)	DCK-6.5 DCK-8 DCK-10
F-6SM Series	F-8SM Series	F-8SMA-8.5 F-10MT	1/2-20(UNF)	DCK-13

*Drill Chucks are applicable to thread type spindle models

Hose Connection

Non-Reversible Type



AIR EXHAUST

Accessories

Good air quality is the key to getting the best of your air motor. It is therefore recommended that a regulator filter and lubricator is fitted to the air supply and that the air flow is suitably regulated.

M16-..../ M25-..../M39-..../ M84



OPTIONAL ACCESSORIES

ITEM	M16	M25	M39	M84/M180
1 Silencer - sinter bronze (Noise clamp 15 dB(A) - Power loss 10)	205 054 1743	205 054 1753	205 054 1753	205 054 1763
2 Silencer (Noise clamp 20 dB(A) - Power loss 10)	205 054 1773	205 054 1773	205 054 1773	205 054 1773
3 Silencer (Noise clamp 25 dB(A) - Power loss 7)	205 054 1783	205 054 1783	205 054 1783	205 054 1783

The silencer 3 has a 1/2" threaded. They need to be connected to the motor via a tube or hose with suitable connections.

The silencer 2 has a 3/8" threaded port. M16, M25 and M39 need to be connected to the motor via a tube or hose with suitable connections.

M25-....TL / M39-....TL

OPTIONAL ACCESSORIES



ITEM	PART NO.
1 Chuck threaded 3/8-24 UNF - cap. 8mm (5/16") with key	205 053 013 3
1 Chuck threaded 3/8-24 UNF - cap. 10mm (3/8") with key	205 052 954 3
1 Chuck threaded 3/8-24 UNF - cap. 13mm (1/2") with key	473113
2 Keyless chuck threaded 3/8" UNF - cap 8mm (5/16")	473433
2 Keyless chuck threaded 3/8" UNF - cap 10mm (3/8")	473423
2 Keyless chuck threaded 3/8" UNF - cap 13mm (1/2")	205 047 819 3
3 CNOMO collet-holder	615 523 019 0
• CNOMO collet ø 3mm	615 526 048 0
• CNOMO collet ø 6mm	615 526 049 0
• CNOMO collet ø 6.35mm (1/4")	615 526 050 0
• CNOMO collet ø 8mm	615 526 051 0
4 Serie 200 collet-holder	615 523 023 0
5 Serie 200 collet-nut	615 607 144 0
• Serie 200 resilient collet, collet ø2.4 to 3.2mm (1/8")	615 526 061 0
• Serie 200 resilient collet, collet ø5.2 to 6mm	615 526 062 0
• Serie 200 resilient collet, collet ø5.55 to 6.35mm (1/4")	615 526 063 0
• Serie 200 resilient collet, collet ø7.2 to 8mm	615 526 064 0
• Serie 200 resilient collet, collet ø8.7 to 9.5mm (3/8")	615 526 065 0

For more information about **Air Line Accessories and Stands** please ask for the Desoutter Industrial Tools catalogue (Part No. 2050484013) or visit www.desouttertools.com





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Air
Motors

After first determining whether a single direction or a reversible motor is required, the next step is to consider the required output speed and torque together with the operational conditions.

As a general rule try to select a motor with twice the free running speed of the speed required under load.

By using the performance graphs indicated on the following pages it is then possible to ensure that the motor meets the requirements specified.

Example: What motor is required to produce an output torque of 4.5 lbf ft at 300 rpm. The motor should be reversible and 6 bar supply pressure is available.

Step One – Select the motor type

The maximum dynamic torque of the DM Series motor is 5.9 lbf ft. Since a reversible motor is required the 2DM6 will be used.

Step Two – Select the appropriate motor speed

As a rule try to select a motor with twice the free running speed of the speed required since this will usually coincide with the high power band of the motor.

For this example we require 300 rpm so use a motor of about 600 rpm free running speed. The closest is 620 rpm so try the 2DM6-620.

Step Three – Confirm the motor is suitable for the application

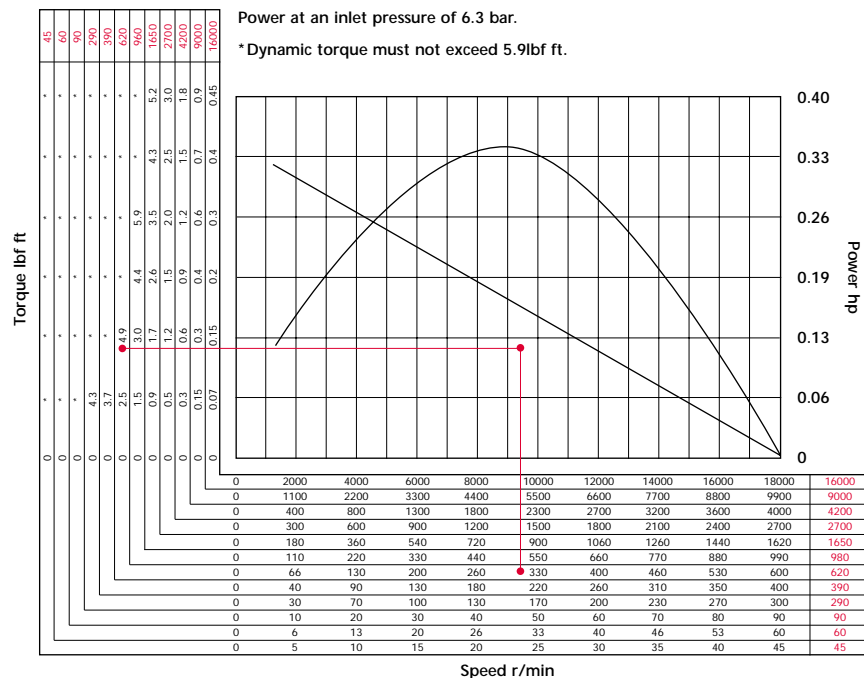
By plotting both the torque (4.5 lbf ft) and speed (300 rpm) on the graph an intersection is found.

Provided the intersection is below the torque line for the motor (straight line) then the motor is suitable for the application.



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2DM6 Series Air Motors Reversible



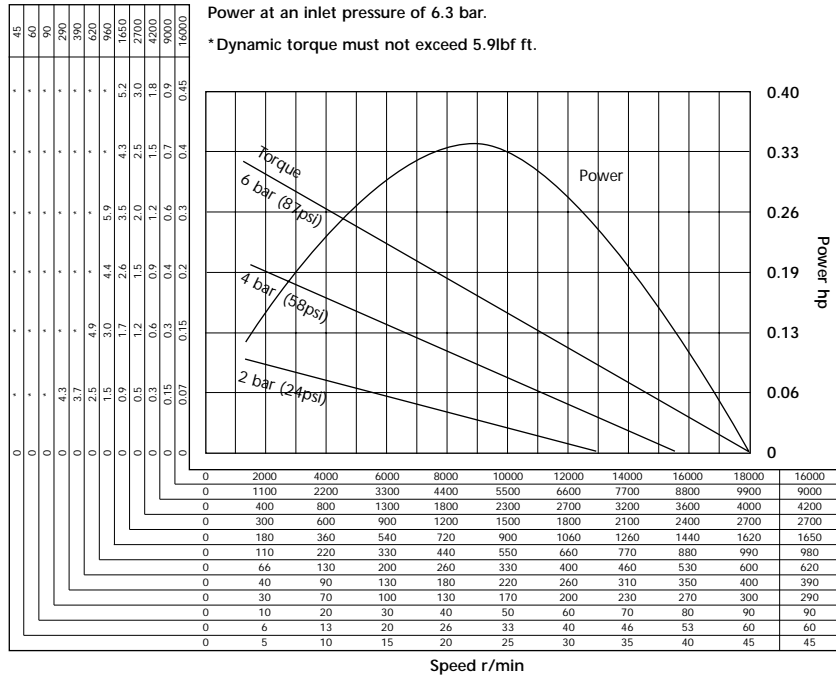
DM6, DM65 Series

0.35 hp,
Maximum Torque 5.9 lbf ft,
Non Reversible

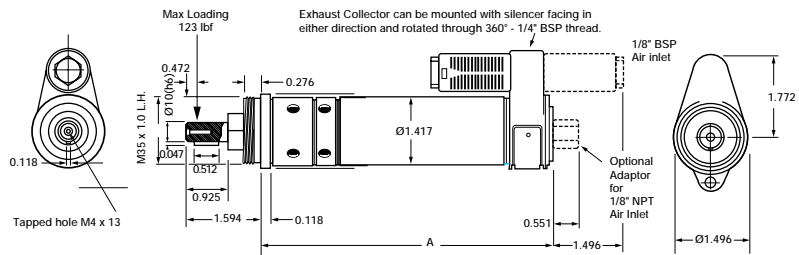


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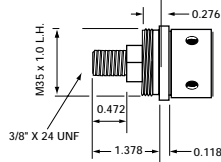
MOTOR TYPE		NO LOAD SPEED r/min.	MAX. POWER hp	TORQUE AT MAX. POWER lbf ft	AIR CONSUMPTION AT MAX. POWER cfm	MIN. HOSE BORE ins	WEIGHT lbs	SOUND LEVEL dB(A)
THREADED SHAFT / THREADED NOSE	KEYED SHAFT / THREADED NOSE							
DM65-16000T	DM6-16000T	16000		0.17			1.4	
DM65-9000T	DM6-9000T	9000		0.30			1.4	
DM65-4200T	DM6-4200T	4200		0.90			1.4	
DM65-2700T	DM6-2700T	2700		1.33			1.4	
DM65-1650T	DM6-1650T	1650		2.21			1.6	
DM65-980T	DM6-980T	980	0.35	3.70	19.9	3/8	1.6	76
DM65-620T	DM6-620T	620		5.90			1.6	
DM65-390T	DM6-390T	390		5.90			1.6	
DM65-290T	DM6-290T	290		5.90			1.8	
DM65-90T	DM6-90T	90		5.90			1.8	
DM65-60T	DM6-60T	60		5.90			1.8	
DM65-45T	DM6-45T	45		5.90			2.0	



DM6-T

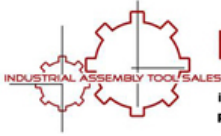


DM65-T



SPEED	A
16000, 4200, 2700	5.118
9000	6.433
1650, 980, 620, 390	5.984
290, 90, 60	6.693
45	7.409

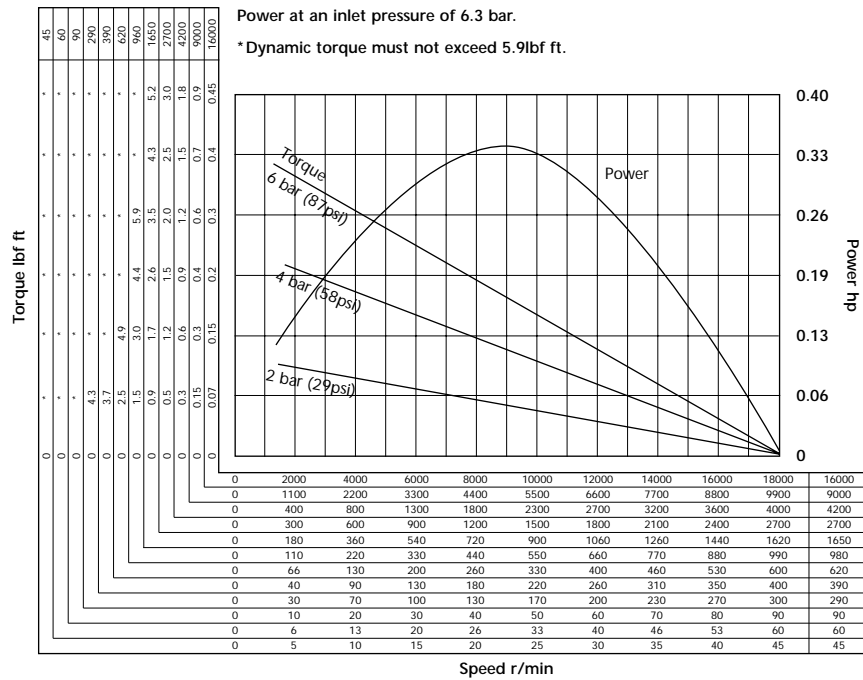
2DM6 Series
0.35 hp,
Maximum Torque 5.9 lbf ft,
Reversible



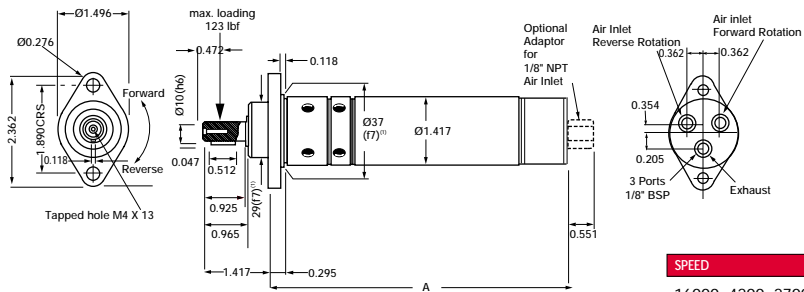
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MOTOR TYPE	NO LOAD SPEED	MAX. POWER	TORQUE AT ¹⁾ MAX. POWER	AIR CONSUMPTION AT MAX. POWER	MIN. HOSE BORE	WEIGHT	SOUND
	r/min.	hp	lbf ft	cfm	ins	lb	dB(A)
2DM6-16000	16000		0.17			1.3	
2DM6-9000	9000		0.30			1.3	
2DM6-4200	4200		0.90			1.3	
2DM6-2700	2700		1.33			1.3	
2DM6-1650	1650		2.21			1.5	
2DM6-980	980	0.35	3.70	19.9	3/8	1.5	73 ¹⁾
2DM6-620	620		5.90			1.5	
2DM6-390	390		5.90			1.5	
2DM6-290	290		5.90			1.7	
2DM6-90	90		5.90			1.7	
2DM6-60	60		5.90			1.7	
2DM6-45	45		5.90			1.7	

¹⁾ It is recommended that a suitable air diffuser is fitted downstream of any control valve through which exhaust air exits.



Note: Exhaust is through common exhaust port and opposite rotation inlet port. Blocking or restricting these ports will reduce the performance of the motor.



⁽¹⁾ Dimensions in mm

SPEED	A
16000, 4200, 2700	5.004
9000	6.319
1650, 980, 620, 390	5.870
290, 90, 60	6.579
45	7.295

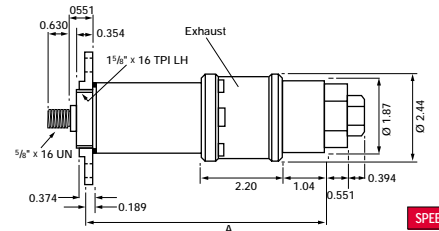
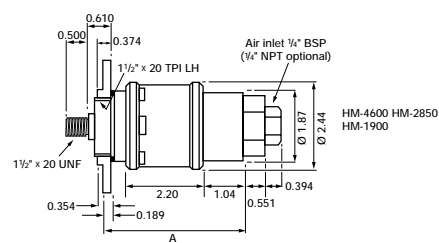
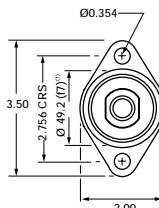
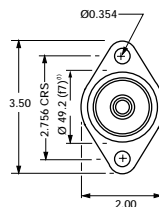
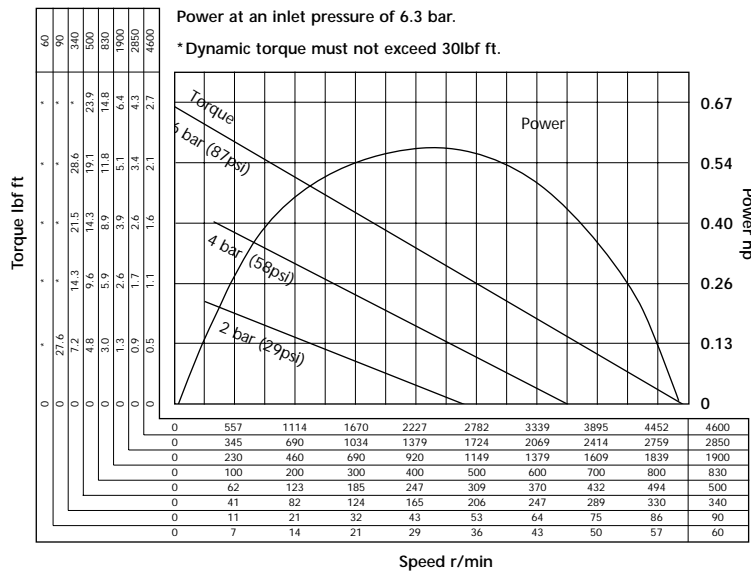
HM Series

0.6 hp,
Maximum Torque 30 lbf ft,
Non Reversible



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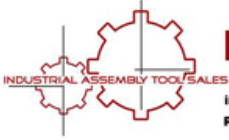
MOTOR TYPE	NO LOAD SPEED	MAX. POWER	TORQUE AT MAX. POWER	AIR CONSUMPTION AT MAX. POWER	MIN. HOSE BORE	WEIGHT	SOUND
	r/min.	hp	lbf ft	cfm	ins	lb	dB(A)
HM-4600	4600		1.5			2.4	
HM-2850	2850		2.2			2.4	
HM-1900	1900		3.3			2.4	
HM-830	830	0.6	7.7	27.5	3/8	3.5	82
HM-500	500		12.4			3.5	
HM-340	340		18.4			3.5	
HM-90	90		30.0			4.2	
HM-60	60		30.0			4.2	



SPEED	A
HM-4600, 2850, 1900	4.38
HM-830, 500, 340	6.15
HM-90, 60	7.61

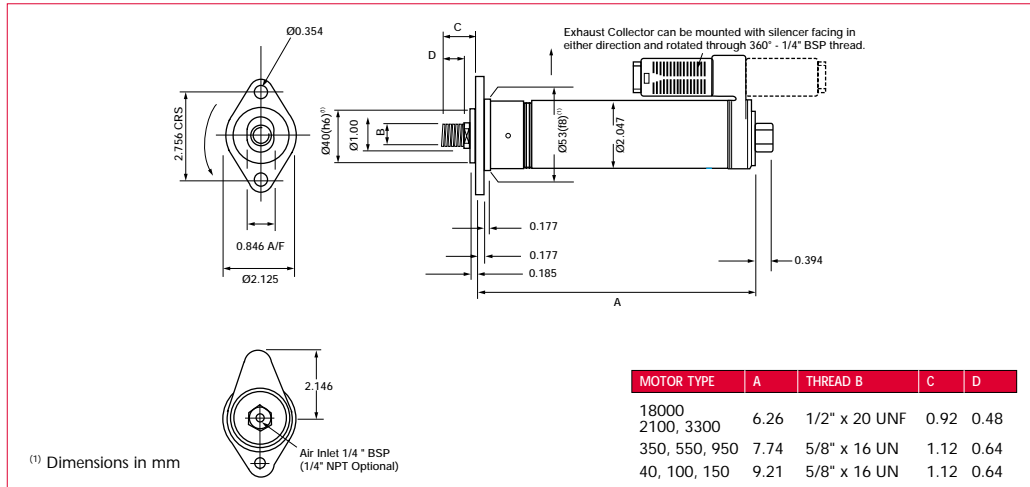
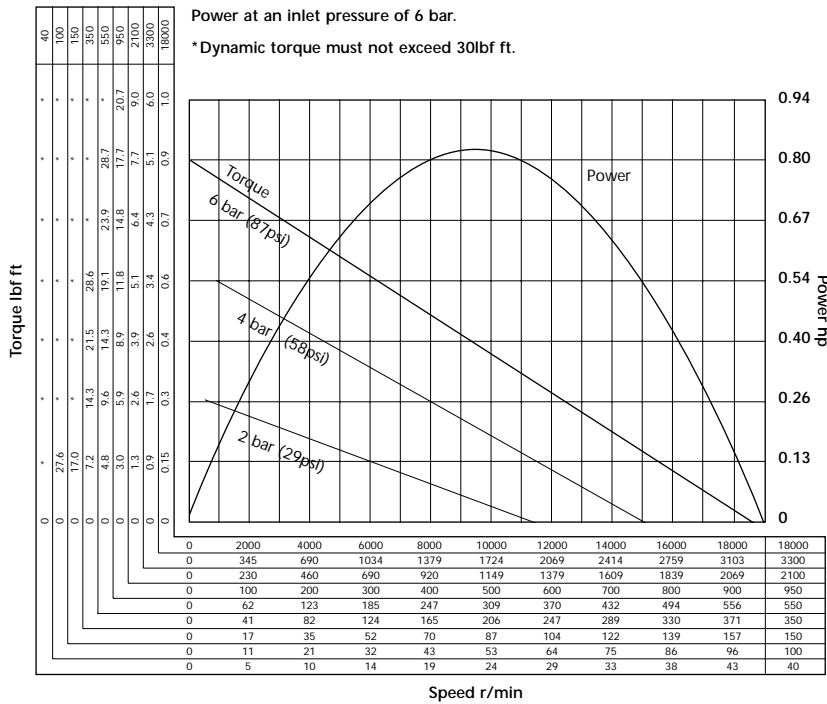
(1) Dimensions in mm

HM 55 Series
0.85 hp,
Maximum Torque 30 lbf ft,
Non Reversible

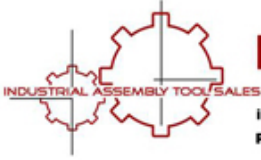


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THREADED SHAFT	NO LOAD SPEED	MAX. POWER	TORQUE AT MAX. POWER	AIR CONSUMPTION AT MAX. POWER	MIN. HOSE BORE	WEIGHT	SOUND
	r/min.	hp	lbf ft	cfm	ins	lb	dB(A)
HM55-18000	18000		0.4			3.1	
HM55-3300	3300		2.6			3.1	
HM55-2100	2100		3.8			3.1	
HM55-950	950		8.9			3.7	
HM55-550	550	0.85	14.3	32.8	3/8	3.7	78
HM55-350	350		21.5			3.7	
HM55-150	150		30			4.6	
HM55-100	100		30			4.6	
HM55-40	40		30			4.6	

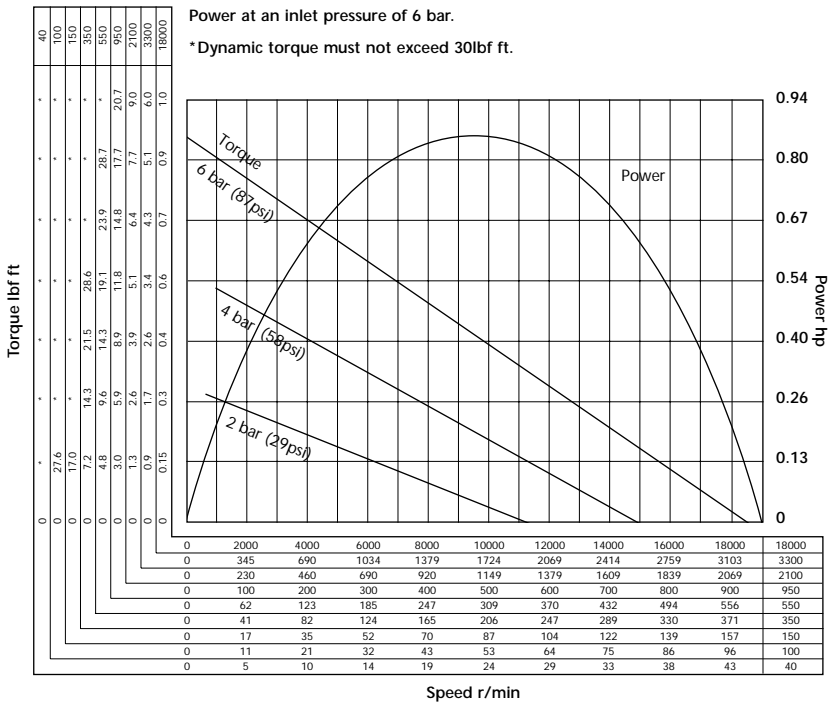


2HM5 Series
 0.85 hp,
 Maximum Torque 30 lbf ft,
 Reversible

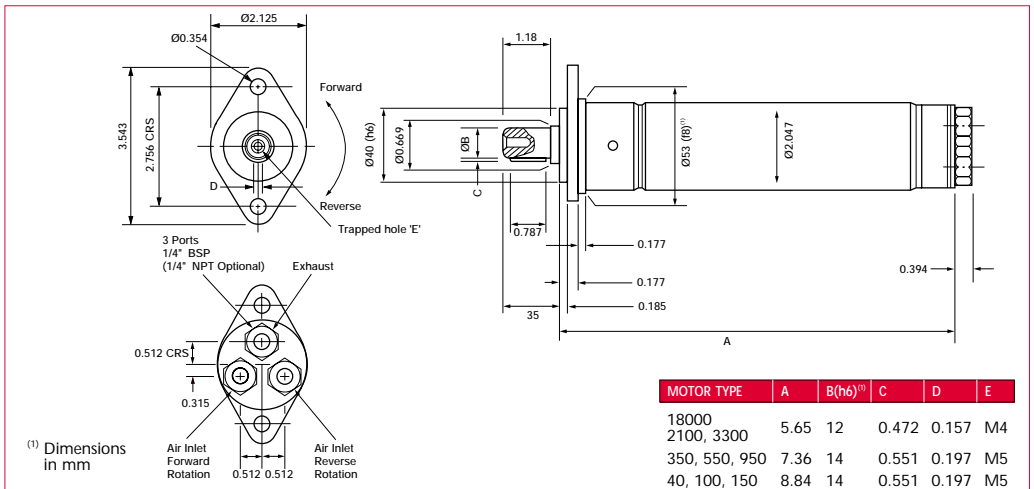


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MOTOR TYPE	NO LOAD SPEED	MAX. POWER	TORQUE AT MAX. POWER	AIR CONSUMPTION AT MAX. POWER	MIN. HOSE BORE	WEIGHT	SOUND
	r/min.	hp	lbf ft	cfm	ins	lb	dB(A)
2HM5-18000	18000		0.5			3.1	
2HM5-3300	3300		2.8			3.1	
2HM5-2100	2100		4.1			3.1	
2HM5-950	950		9.6			3.7	
2HM5-550	550	0.85	15.5	35.0	3/8	3.7	87
2HM5-350	350		23.2			3.7	
2HM5-150	150		30			4.6	
2HM5-100	100		30			4.6	
2HM5-40	40		30			4.6	



Note: Exhaust is through common exhaust port and opposite rotation inlet port. Blocking or restricting these ports will reduce the performance of the motor.



2H410 Series
0.85 hp,
Maximum Torque 78 lbf ft,
Worm Drive Motors



MOTOR TYPE	NO LOAD SPEED	MAX. POWER	MAX. STALL TORQUE	MIN. SAFE WORKING PRESSURE	MAX. AIR CONSUMPTION	MIN. HOSE BORE	WEIGHT	SOUND
	r/min	hp	lbf ft	bar	cfm	ins	lbs	dB(A)
2H410-500	500	0.85	29	6	36	1/2	3.8	87
2H410-350	350		37	6	36	1/2	3.8	
2H410-150	150		78	6	36	1/2	4.4	
2H410-90	90		78	4	22	3/8	4.4	
2H410-60	60		78	2.8	19	3/8	4.4	

A version of the 2HM5 motor can be supplied equipped with a worm drive gearbox, allowing the drive to be taken from each side of the head for either right hand or left hand rotation.

Standard drive is a .525" A/F Female Hexagon, but adaptors can be supplied to convert this to either 3/8" or 1/2" square drive. An alternative head is available to provide a No. 1 morse taper drive.

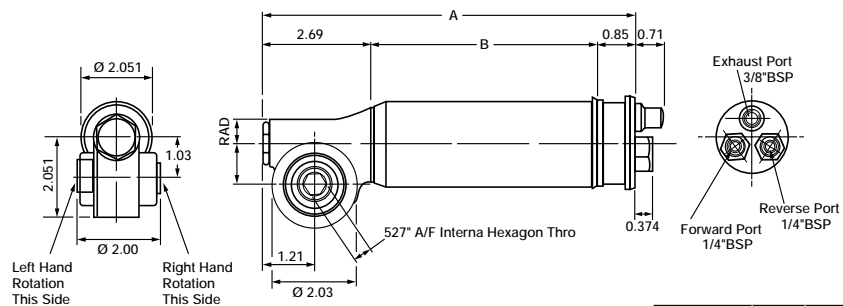


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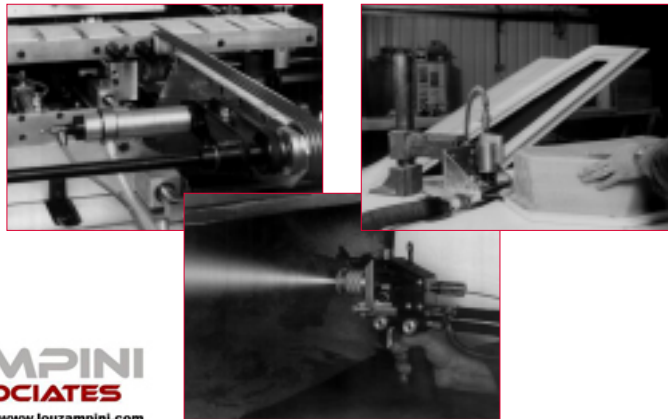
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Note: Exhaust is through common exhaust port and opposite rotation inlet port. Blocking or restricting these ports will reduce the performance of the motor.



TYPE	SPEED	A	B
2H410-500	500	8.22	4.68
2H410-350	350	8.22	4.68
2H410-150	150	9.68	6.14
2H410-90	90	9.68	6.14
2H410-60	60	9.68	6.4



Special Applications


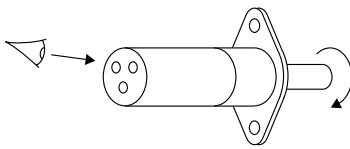





Desoutter can produce special motors to specifically suit your application whether through modification of the control method or output drive. Please provide details should your application require a special type.



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Selection Questionnaire

The following questionnaire is for use either by the engineer for his/her own calculations or can be completed and returned to the local Desoutter Sales Office.

Specification					
Torque Required _____		lbf ft			
Speed Required _____		RPM			
Rotation	Forward		<input type="checkbox"/>		
	Reverse		<input type="checkbox"/>		
	Reversible		<input type="checkbox"/>		
Output Type	Keyed		<input type="checkbox"/>	(DM6-T/2DM6/2HM5)	
	Threaded		<input type="checkbox"/>	(DM65-T/HM55/HM only)	
	0.525" Hexagon		<input type="checkbox"/>	(2H410 only)	
Air Line Pressure _____		bar		(to convert psi to bar x 14.504)	
Lubrication Available		Yes <input type="checkbox"/>	No <input type="checkbox"/>		
Number of Motors Required _____					
OFFICE USE ONLY					
Recommended Motor Type _____					
Accessories (see pages 12-15)			OFFICE USE ONLY		
Chucks		<input type="checkbox"/>	Recommended Accessories		
Collet Holders		<input type="checkbox"/>	_____		
Screwdriver Bit Adaptor		<input type="checkbox"/>	_____		
Flange (DM6/65-T)		<input type="checkbox"/>	_____		
Exhaust Collector (HM)		<input type="checkbox"/>	_____		
Stands		<input type="checkbox"/>	_____		
Air Service Equipment		<input type="checkbox"/>	_____		
Air Line Hoses		<input type="checkbox"/>	_____		

Key Adjustable Chucks



MOTOR TYPE	CHUCK CAPACITY	CHUCK AND KEY
	ins	part no.
DM65-T	1/4	28942
	5/16	94502
	3/8	31132
HM-1900-4600 HM55-2100-18000	1/2	29142
HM-60-830 HM55-40-950	1/2	29122

Collet Chucks



MOTOR TYPE	LENGTH	DIA.	1	2
	ins	ins	part no.	part no.
DM65-T			26932	26942
HM-1900-4600 HM55-2100-18000	1.65	0.60	26932	26952



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COLLETS							
ins	part no.	ins	part no.	ins	part no.	ins	part no.
0.031	2892	0.075	3002	0.118	3112	0.161	3222
0.035	2902	0.079	3012	0.122	3122	0.165	3232
0.039	2912	0.083	3022	0.126	3132	0.169	3242
0.043	2922	0.087	3032	0.130	3142	0.173	3252
0.047	2932	0.091	3042	0.134	3152	0.177	3262
0.051	2942	0.094	3052	0.138	3162	0.181	3272
0.055	2952	0.098	3062	0.142	3172	0.185	3282
0.059	2962	0.102	3072	0.146	3182	0.189	3292
0.063	2972	0.106	3082	0.150	3192	0.193	3302
0.067	2982	0.110	3092	0.154	3202	0.197	3312
0.071	2992	0.114	3102	0.157	3212		

Fixed Collet Drives



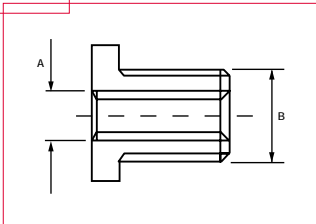
DIAMETER	MOTOR TYPE	LENGTH	DIA.	COLLET	NUT
		ins	ins	part no.	part no.
6mm 1/4"	DM65-T	1.63	0.83	22362	22352
		1.63	0.83	22382	22352

Screwdriver Bit Adaptor



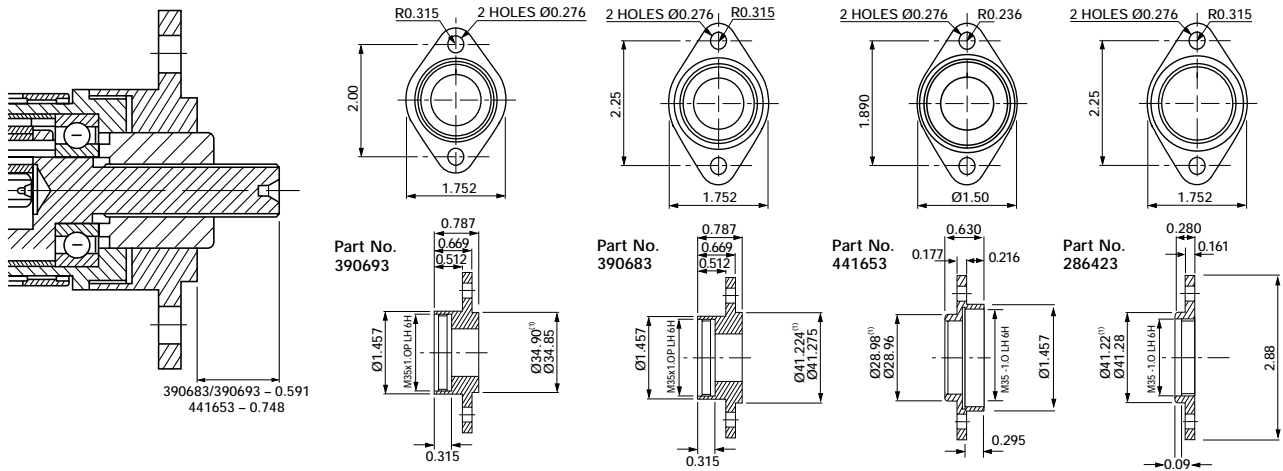
DRIVE	MOTOR TYPE	LENGTH	DIA.	part no.
		ins	ins	
5/16" fem.	DM65-T	1.38	0.5	27532

Thread Adaptor



MOTOR TYPE	A	B	part no.
DM65-T	3/8" x 24 UNF	1/2" x 20 UN	68143

Flange for DM6/65-T



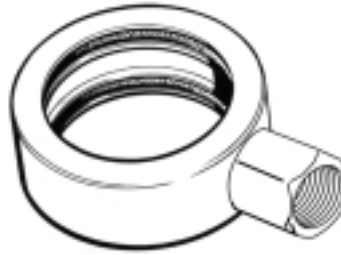
Part No. 390683 provides same mounting dimensions as DM - 17700/5300/4000/3000/1600
 Part No. 390693 provides same mounting dimensions as DM - 900/500/210/80/40
 Part No. 441653 provides same mounting dimensions as DM6 and DM65 motors

(1) Dimensions in mm

Exhaust Collector Ring for HM Series



Part No. 43093



Part No. 72163

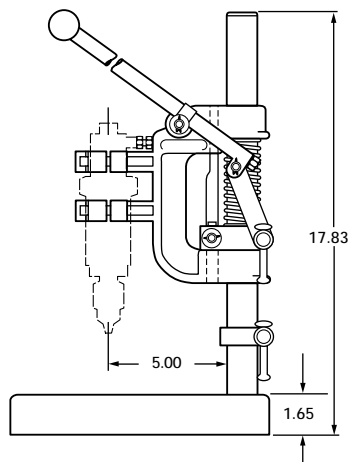
CONNECTION	PART NO.
Ø15mm barb	43093
3/8" BSP Female	72163

Stands

R55 Lever Operated Stand for HM Series



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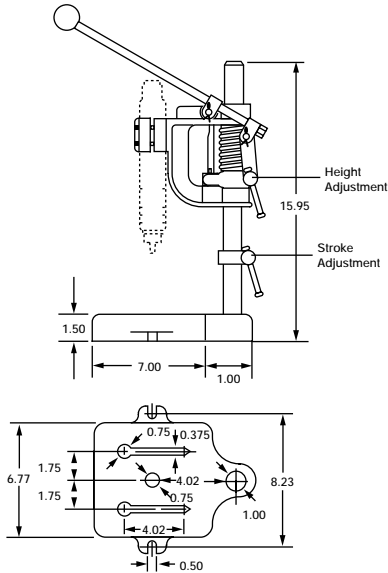


Part No. 903304

Note: Motor must be fitted with exhaust collector ring (see above)

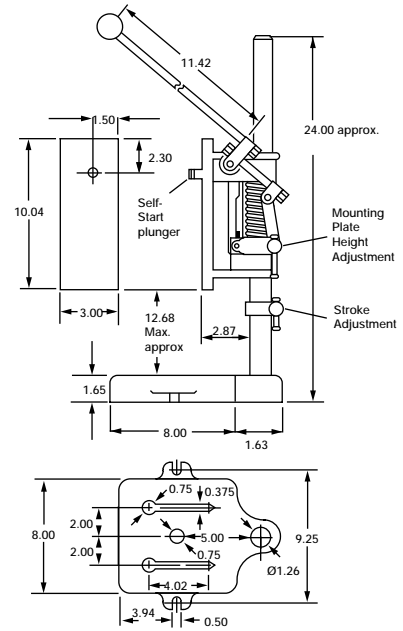
D54 Lever-Operated Stand For DM6, DM65 and 2DM6 Motor

Part No. 901944
Weight: 15.4 lbs
Max. Stroke: 1.77 ins



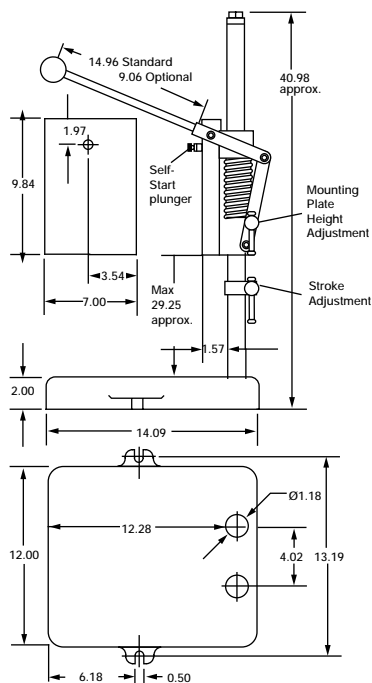
R55-S Lever-Operated Stand

Part No. 903644
Weight: 24.9 lbs
Max. Stroke: 2.24 ins
Max. Mounting Plate Load: 13.2 lbs



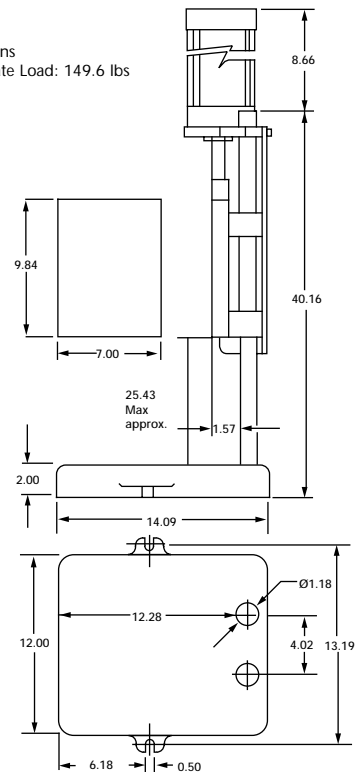
M55A Lever-Operated Stand With Linear Bearings

Part No. 902594
Weight: 35.2 lbs
Max. Stroke: 2.56 ins
Max. Mounting Plate Load: 15.95 lbs



MC55 Cylinder-Operated Stand With Linear Bearings

Part No. 902914
Weight: 70.4 lbs
Max. Stroke: 3.94 ins
Max. Mounting Plate Load: 149.6 lbs



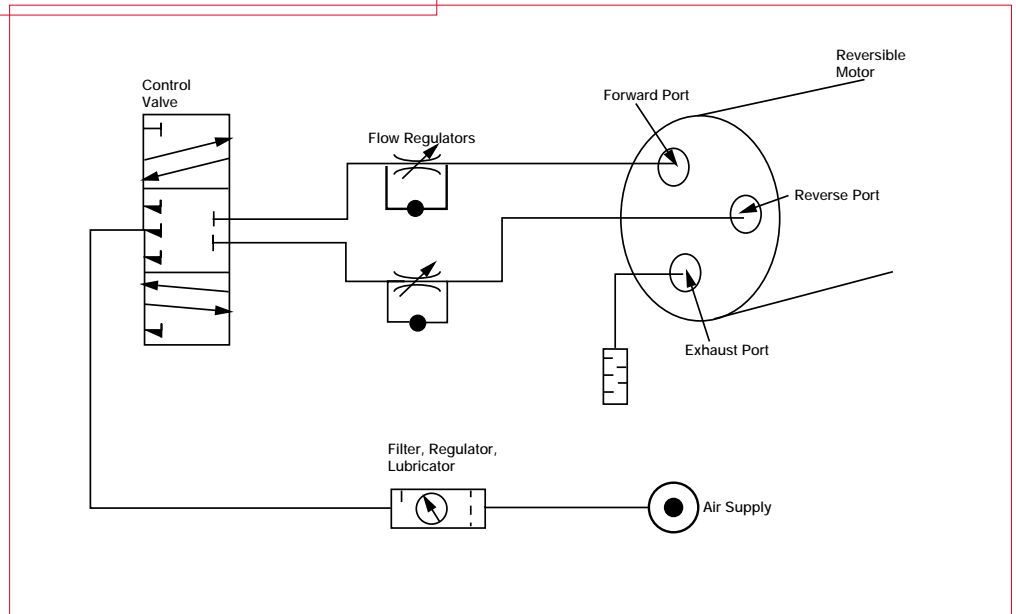
Operating the Motor

To obtain the longest life span of the vane type air motor, it is recommended that a clean, dry supply of air in sufficient quantity is supplied, with an automatic lubrication system to provide the correct amount of lubrication to the air motor at all times.

Controlling the motor can be achieved using pneumatic valves, either hand, foot, pilot air or solenoid operated. The valve used must have full flow capability to ensure unrestricted air flow to the motor.

Torque is controlled by changing the pressure, speed by air flow.

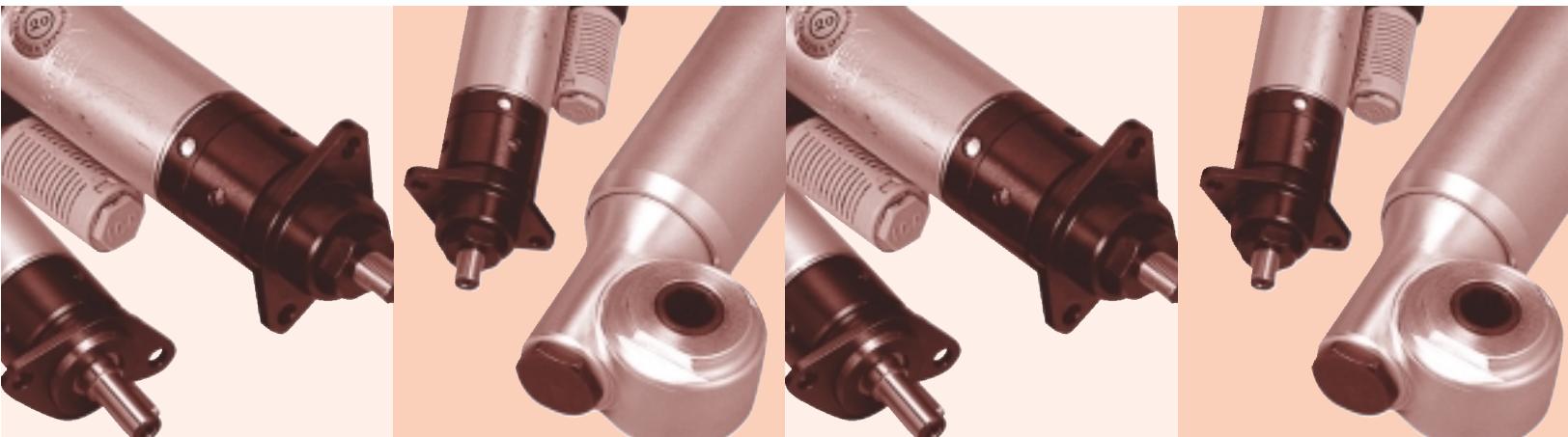
A Typical Control Circuit



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Air motors are versatile power sources which can be used to power many kinds of operations requiring a rotational drive. They have many advantages over electric motors, and often become the only feasible method of operation.



Advantages

Desoutter offers a wide range of rotating vane type air motors within a power range of 0.35 hp to 0.85 hp. Most motors can be supplied as single rotation or reversible. Reversible motors have keyed shafts, while single direction motors can be supplied with threaded shafts or alternatives.

1. Compact, with high power to weight ratio. An air motor will often be one third or less than the size of a comparable electric motor. An air motor can be used in a portable application where the weight and/or physical size of the electric motor would preclude portable operations. For example, a 0.85 hp air motor running at 2000 rpm weighs 3 lbs and is approximately 8" long and just over 2" in diameter.
2. The output speed and torque can be simply controlled by regulating either the air pressure or air flow. No expensive control equipment is required.
3. If a motor is loaded to a stalled condition, and held there for any length of time, no damage is caused to the motor. In certain applications, such as tightening fasteners, one acceptable method of control is to regulate the air pressure so that the motor stalls at the required torque.
4. When the load is released, the air motor will reach free running speed usually within one third to one half of a revolution.
5. No risk of overheating either when continuously run or frequent stop/starts or reversing. Note that this condition assumes the use of an inline lubrication system.
6. Reversing motors require simple control of air pressure into ports in the control top of the motor to determine direction of rotation. To reverse the direction of rotation takes milliseconds to complete.
7. Resists moisture, dust, heat. Is generally explosion proof and can be used safely in most hazardous situations.

Terms

The following terminology is used in this publication:

No load speed – maximum speed attained at a given air pressure under a no-load condition.

Maximum power – with a vane type air motor, the maximum power output is achieved at nearly one half of the no load speed. This is the point at which the motor will run most efficiently.

Dynamic torque – the output torque of the motor at any stage during the operating cycle. The dynamic torque increases virtually in a straight line from zero at no load to a maximum at the stalled condition.

Stall torque – output torque achieved when the load applied causes the motor to stall.

Starting torque – to obtain the proper sealing of the rotor blades against the cylinder walls for maximum efficiency, and to

overcome inertia, it takes more torque to start an air motor than when it is running. Starting torque is approximately 75% of stall torque.

Air consumption – measured in the no-load condition. Air consumption is maximum at no load, and is approximately three quarters of this figure at maximum power. Air consumption reduces as the working air pressure is reduced. For example at 50 p.s.i. the air consumption is almost one half that at 90 p.s.i.

Performance specifications – are normally shown with an air inlet pressure of 6.3 bar at the air motor, unless otherwise stated. Note that there is approximately a 14% drop in power for every 10% reduction in air inlet pressure.

Rotation – non-reversible motors rotate in a clockwise direction if the motor is viewed from the air inlet end with the spindle pointing away from you.

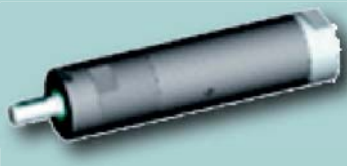
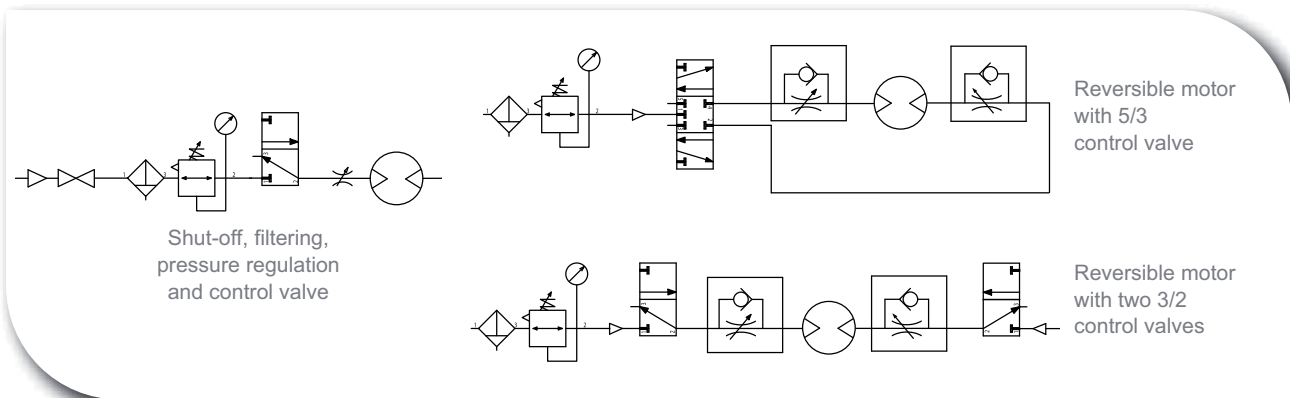


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Installation and incorporation

- **Good air quality is the key to achieving the best Air Motor efficiency**, in terms of Power, Torque, Speed and life time performance, it is recommended to have air with which is supplied **must be filtered and regulated**, and advisable to use **Filter, Regulator, Lubricator, air flow regulator**.
- **Always use the recommended air hose bore** for air feed and exhaust hoses
- It is advisable that the **diameter of the exhaust hose is greater than the air supply hose**.
- **Check that the couplings don't reduce the air flow**.
- Minimum air network pressure: **7 bar (101 psi)** and regulator pressure setting: **6.3 bar (91.4 psi)**
- Pipe length between air treatment unit and valve: **max. 1.5 m (4.9 ft)**
- Pipe length between valve and air motor: **max. 3 m (9.8 ft)**

MOTOR TYPE	INLET CONNECTION THREAD	EXHAUST CONNECTION THREAD	INLET HOSE DIAMETER		EXHAUST HOSE DIAMETER (Non reversible)		EXHAUST HOSE DIAMETER (Reversible)	
			mm	in.	mm	in.	mm	in.
M16	1/8	1/8	5.0	3/16	8.0	5/16	6.3	1/4
M25	1/8	1/4	6.3	1/4	10.0	3/8	8.0	5/16
M39	1/4	1/4	8.0	5/16	10.0	3/8	8.0	5/16
M84	1/4	1/2	10.0	3/8	16.0	5/8	13.0	1/2
M180	3/8	3/4	13.0	1/2	20.0	13/18	13.0	1/2
M290	1/2	-	16.0	5/8	-	-	16.0	5/8



3D available on website

Log on to www.desouttertools.com and go to dedicated air motor web site...

