

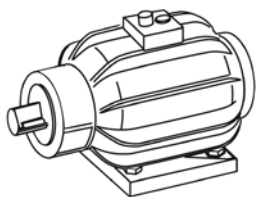


## Air Motors

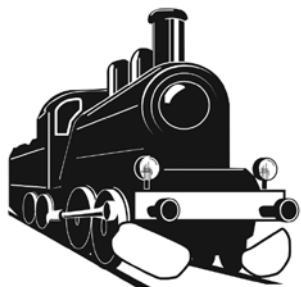
P1V-S, Stainless Steel Type  
20 to 1200 Watts

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## P1V-S - Stainless Steel Air Motors



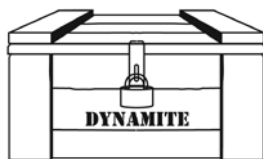
Air motors have much smaller installation dimensions than corresponding electric motors.



Air motors can be loaded until they stall, without damage. They are designed to be able to withstand the toughest heat, vibration, impact etc.



The weight of an air motor is several times less than corresponding electric motors.



Air motors can be used in the harshest environments. Most P1V-S motors are ATEX certified.



The choice of materials means that they can be used in damp and aggressive environments.



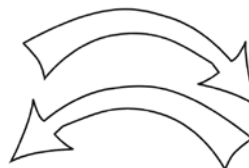
The shape, design and non-lubricated operation allow the motor to be suitable for use in the food industry.



Air motors can be stopped and started continually without damage.



The simple design principle of air motors makes them very easy to service.

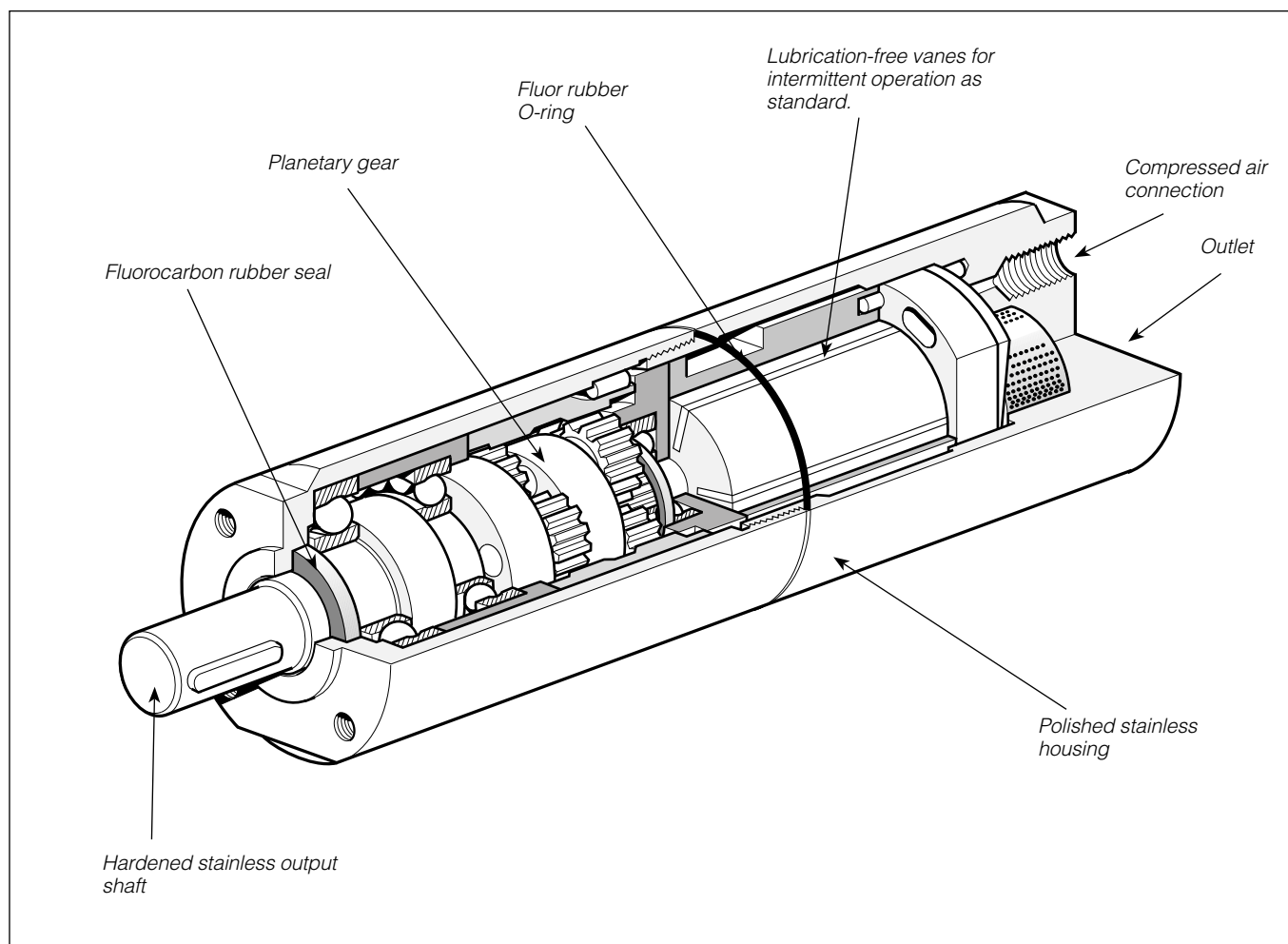


The motors are reversible as standard.



The reliability of air motors is very high, thanks to the design and the low number of moving parts.

## P1V-S - Stainless Steel Air Motors



### Stainless Steel Air Motors

P1V-S is a range of air motors with all external components made of stainless steel, which means that they can be used in food grade applications, and in all other applications where there is a risk of corrosion.

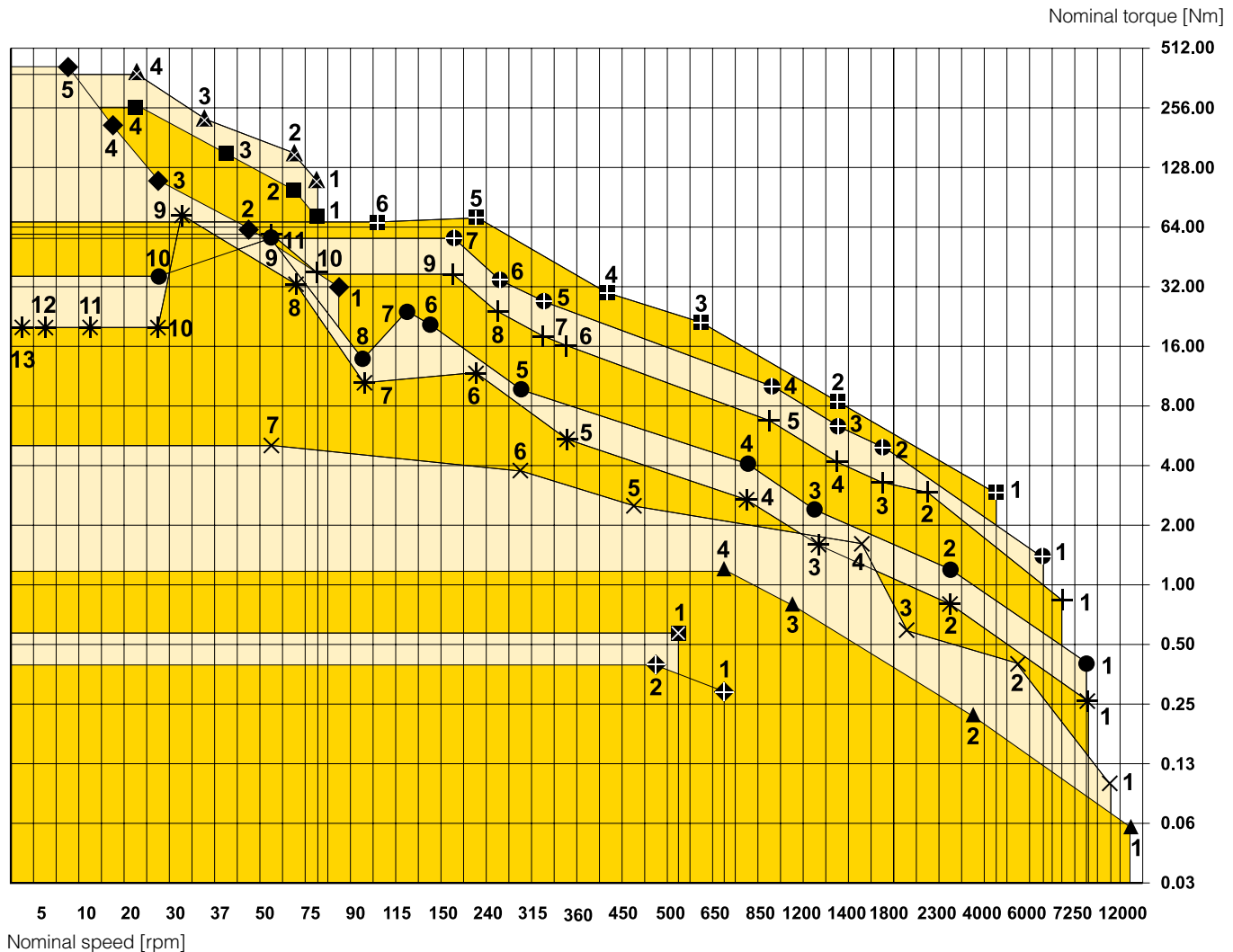
The range contains seven different sizes, with power ranging from 20 to 1 200 Watts, and speeds from 5 to 24 000 rpm. The air motor and planetary reduction gear are built into a polished stainless steel housing, which is sealed by a fluorocarbon rubber O-ring. The output shaft, which is made of polished stainless steel, is also sealed by a fluorocarbon rubber seal.

Consideration for achieving a clean, hygienic design was given early on in the development of this range of air motors. Thanks to the cylindrical shape, there are no pockets which can accumulate dirt or bacteria. Additionally, the two halves of

the motor body are sealed with an o-ring to prevent contamination. The choice of materials reflects the fact that aggressive cleaning materials are used in food grade applications.

The P1V-S series is designed to be operated in intermittent intervals under non-lubrication conditions. For this reason, no particles of lubricant escape with the exhaust air and the service costs are reduced. This means that the motors can be used directly in food grade applications. The planetary gear, which has one or more reduction stages, is lubricated with an USDA-H1 standard grease, approved for use in food grade applications.

## Choice of an air motor



The motor to be used should be selected by starting with the torque needed at a specific shaft speed. In other words, to choose the right motor, you have to know the required speed and torque. Since maximum power is reached at half the motor's free speed, the motor should be chosen so that the operating point is as close as possible to the maximum power of the motor.

The design principle of the motor means that higher torque is generated when it is braked, which tends to increase the speed, etc. This means that the motor has a kind of speed self-regulation function built in.

Use the above graph to choose the correct motor size. The graph contains the points for the maximum torque of each motor at maximum output. Add your operating point to the graph, then select a marked point above and to the right of your point.

Then use the correct working diagram of the chosen motor to get more detailed technical data. Always select a motor whose requisite technical data are in the shaded area. Also use the correction diagram to find out what operation with different supply pressures would mean for the motor.

**Tip:** Select a motor which is slightly too fast and powerful, then regulate its speed and torque with a pressure regulator and/or throttle to achieve the optimum working point.

- ◆ P1V-S002
- ⊠ P1V-S003
- ▲ P1V-S008
- ✕ P1V-S012
- \* P1V-S020
- P1V-S030
- ⊕ P1V-S060
- ⊞ P1V-S090
- ⊞ P1V-S120
- ◆ P1V-S028 HT
- P1V-S057 HT
- ▲ P1V-S086 HT

**P1V-S - Stainless Steel Air Motors**

- ◀ 1 P1V-S002A0130
- ◀ 2 P1V-S002A0095

**20 Watt****P1V-S002A**

- ☒ 1 P1V-S003B0100

**30 Watt****P1V-S003B**

- ▲ 1 P1V-S008A0Q00
- ▲ 2 P1V-S008A0700
- ▲ 3 P1V-S008A0190
- ▲ 4 P1V-S008A0130

**80 Watt****P1V-S008A**

- ✕ 1 P1V-S012A0N00, P1V-S012D0N00
- ✕ 2 P1V-S012A0550, P1V-S012D0550
- ✕ 3 P1V-S012A0360, P1V-S012D0360
- ✕ 4 P1V-S012A0140, P1V-S012D0140
- ✕ 5 P1V-S012A0090, P1V-S012D0090
- ✕ 6 P1V-S012A0060, P1V-S012D0060
- ✕ 7 P1V-S012A0010, P1V-S012D0010

**120 Watt****P1V-S012**

- \* 1 P1V-S020A0E50, P1V-S020D0E50
- \* 2 P1V-S020A0460, P1V-S020D0460
- \* 3 P1V-S020A0240, P1V-S020D0240
- \* 4 P1V-S020A0140, P1V-S020D0140
- \* 5 P1V-S020A0070, P1V-S020D0070
- \* 6 P1V-S020A0032, P1V-S020D0032
- \* 7 P1V-S020A0018, P1V-S020D0018
- \* 10 P1V-S020A0005, P1V-S020D0005
- \* 11 P1V-S020A0002
- \* 12 P1V-S020A0001
- \* 13 P1V-S020A00005

**200 Watt****P1V-S020**

- 1 P1V-S030A0E50, P1V-S030D0E50
- 2 P1V-S030A0460, P1V-S030D0460
- 3 P1V-S030A0240, P1V-S030D0240
- 4 P1V-S030A0140, P1V-S030D0140
- 5 P1V-S030A0060, P1V-S030D0060
- 6 P1V-S030A0034, P1V-S030D0034
- 7 P1V-S030A0023
- 8 P1V-S030A0018, P1V-S030D0018
- 9 P1V-S030A0010
- 10 P1V-S030A0005, P1V-S030D0005

**High torque**

- ◆ 1 P1V-S028A0017
- ◆ 2 P1V-S028A0008
- ◆ 3 P1V-S028A0005
- ◆ 4 P1V-S028A0003
- ◆ 5 P1V-S028A0002

**300 Watt****P1V-S030**

- + 1 P1V-S060A0E00
- + 2 P1V-S060A0350
- + 3 P1V-S060A0270
- + 4 P1V-S060A0170
- + 5 P1V-S060A0063
- + 6 P1V-S060A0048
- + 7 P1V-S060A0030
- + 8 P1V-S060A0015

- 1 P1V-S057A0015
- 2 P1V-S057A0011
- 3 P1V-S057A0007
- 4 P1V-S057A0004

**600 Watt****P1V-S060A**

- ⊕ 1 P1V-S090A0C00
- ⊕ 2 P1V-S090A0350
- ⊕ 3 P1V-S090A0270
- ⊕ 4 P1V-S090A0170
- ⊕ 5 P1V-S060A0063
- ⊕ 6 P1V-S060A0048
- ⊕ 7 P1V-S060A0030

- ▲ 1 P1V-S086A0015
- ▲ 2 P1V-S086A0011
- ▲ 3 P1V-S086A0007
- ▲ 4 P1V-S086A0004

**900 Watt****P1V-S090A**

- 1 P1V-S120A0900
- 2 P1V-S120A0250
- 3 P1V-S120A0110
- 4 P1V-S120A0070
- 5 P1V-S120A0032
- 6 P1V-S120A0020

**1200 Watt****P1V-S120A**



**P1V-S - Stainless Steel Air Motors****Technical data**

Air motor size & type	P1V-S002	P1V-S003	P1V-S008	P1V-S012	P1V-S020	P1V-S030	P1V-S060	P1V-S090	P1V-S120
Nominal power (watts)	20	30	80	120	200	300	600	900	1200
Working pressure (bar)	3 to 7, 6 in explosive atmosphere								
Working temperature (°C)	-20 to +110								
Ambient temperature (°C)	-20 to +40 in explosive atmosphere								
Air flow required (NI/min)	100	100	230	300	370	470	850	1400	1600
Min pipe ID, inlet (mm)	3	3	4	6	10	10	12	12	19
Min pipe ID, outlet (mm)	3	3	4	6	10	10	12	12	19
Choice of treatment unit: recommended min air flow (l/min) at p1 7.5 bar and 0.8 bar pressure drop									
	120	120	260	340	410	510	900	1500	1800
Medium	40µm filtered, oil mist or dry unlubricated compressed air								
Oil free operation, indoor	ISO8573-1 purity class 3.4.1								
Oil free operation, outdoor	ISO8573-1 purity class 1.2.1								
Oil operation	1-2 drop per cube meter, ISO8573-1 purity class 3.-.5								
Recommended oil	Foodstuffs industry Klüber oil 4 UH1- 32 N								
Choice of valve: recommended min nominal air flow (l/min) at p1 6 bar and 1 bar pressure drop									
	140	140	290	380	450	550	950	1600	2000
Sound level free outlet (dB(A))	98	98	95	99	100	103	103	106	108
With outlet silencer (dB(A))	85	85	85	92	82	91	94	88	95
Exhaust air removed with pipes to another room	74	74	71	70	71	70	76	80	87

**Note:** sound levels are measured at free speed with the measuring instrument positioned 1 meter away from the air motor at an height of 1 meter.

**Table and diagram data**

All technical data are based on a working pressure of 6 bar and with oil. Oil-free performances are -10 to 15% lower.  
Data tolerance accuracy +-10%

**Material specification**

Air motor size & type	P1V-S002	P1V-S003	P1V-S008	P1V-S012	P1V-S020	P1V-S030	P1V-S060	P1V-S090	P1V-S120
Planetary gearbox housing	Stainless steel								
Planetary gearbox housing for last planet stage including installation flange	-	-	-	-		Black oxidised steel (not stainless)	-	-	-
Air motor housing	Stainless steel								
Shaft	Hardened stainless steel								
Key	Hardened stainless steel								
External seal Fluor rubber	Fluor rubber FPM								
Internal steel parts	High grade steel (not stainless)								
Planetary gear grease used in	Grease, Shell Cassida RLS2								
Screws in housing in last planet stage	Surface treated steel (not stainless)								

Accessories	P1V
Flange bracket	Stainless steel
Foot bracket	Stainless steel
Screws for the mountings	Stainless steel DIN A2

# P1V-S - Stainless Steel Air Motors

## Permitted shaft loadings

Max. permitted load on output shaft for motors (based on 10 000 000 rpm at input shaft with 90 % probable service life for ball bearings).

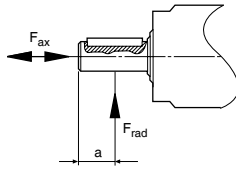


Fig. 1: Load on output shaft for basic motor with keyed shaft.

### Motor with keyed shaft

Order code	Fax [N]	Frad [N]	a [mm]
P1V-S002A0130	140	180	6
P1V-S002A0095	140	180	6
P1V-S003B0100	140	180	6
P1V-S008A0Q00	200	220	7
P1V-S008A0700	200	220	7
P1V-S008A0190	200	220	7
P1V-S008A0130	200	220	7
P1V-S012AN00	380	160	9
P1V-S012A550	380	160	9
P1V-S012A360	380	160	9
P1V-S012A140	380	160	9
P1V-S012A090	380	160	9
P1V-S012A060	380	160	9
P1V-S012A010	380	160	9
P1V-S020A0E50	570	720	12
P1V-S020A0460	570	720	12
P1V-S020A0240	570	720	12
P1V-S020A0140	570	720	12
P1V-S020A0070	570	720	12
P1V-S020A0032	570	720	12
P1V-S020A0018	570	720	12
P1V-S020A0005	570	720	12
P1V-S020A0002	570	720	12
P1V-S020A0001	570	720	12
P1V-S020A00005	570	720	12
P1V-S030A0E50	570	1130	14
P1V-S030A0460	570	1130	14
P1V-S030A0240	570	1130	14
P1V-S030A0140	570	1130	14
P1V-S030A0060	790	1070	15
P1V-S030A0034	790	1070	15
P1V-S030A0023	790	1070	15
P1V-S030A0018	790	1070	15
P1V-S030A0010	790	1070	15
P1V-S030A0005	790	1070	15
P1V-S060A0E00	1110	1300	15
P1V-S060A0350	1110	1300	15
P1V-S060A0270	1110	1300	15
P1V-S060A0170	1110	1300	15
P1V-S060A0063	1110	1300	15
P1V-S060A0048	1130	2090	18
P1V-S060A0030	1130	2090	18
P1V-S060A0015	1130	2090	18
P1V-S090A0C00	1110	1300	15
P1V-S090A0350	1110	1300	15
P1V-S090A0270	1110	1300	15
P1V-S090A0170	1110	1300	15
P1V-S090A0063	1110	1300	15
P1V-S090A0048	1130	2090	18
P1V-S090A0030	1130	2090	18
P1V-S120A0900	2330	2260	18
P1V-S120A0250	2330	2260	18
P1V-S120A0110	2330	2260	18
P1V-S120A0070	2330	2700	30
P1V-S120A0032	2330	2700	30
P1V-S120A0020	2330	2700	30
P1V-S028A0017	1500	3500	21
P1V-S028A0008	1500	3500	21
P1V-S028A0005	1500	3500	21
P1V-S028A0003	1500	3500	20
P1V-S028A0002	1500	3500	20
P1V-S057A0015	1500	3500	21
P1V-S057A0011	1500	3500	21
P1V-S057A0007	1500	3500	21
P1V-S057A0004	1500	3500	22.5
P1V-S086A0015	1500	3500	21
P1V-S086A0011	1500	3500	21
P1V-S086A0007	1500	3500	21
P1V-S086A0004	1500	3500	22.5

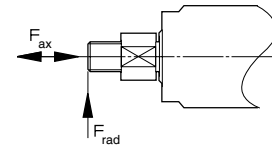


Fig. 2: Load on output shaft for basic motor with threaded shaft.

### Motor with threaded shaft

Order code	Fax [N]	Frad [N]	a [mm]
P1V-S012DN00	380	110	0
P1V-S012D550	380	110	0
P1V-S012D360	380	110	0
P1V-S012D140	380	110	0
P1V-S012D090	380	110	0
P1V-S012D060	380	110	0
P1V-S012D010	380	110	0
P1V-S020D0E50	570	450	0
P1V-S020D0460	570	450	0
P1V-S020D0240	570	450	0
P1V-S020D0140	570	450	0
P1V-S020D0070	570	450	0
P1V-S020D0032	570	450	0
P1V-S020D0018	570	450	0
P1V-S020D0005	570	450	0
P1V-S030D0E50	570	860	0
P1V-S030D0460	570	860	0
P1V-S030D0240	570	860	0
P1V-S030D0140	570	860	0
P1V-S030D0060	790	820	0
P1V-S030D0034	790	820	0
P1V-S030D0018	790	820	0
P1V-S030D0005	790	820	0

Frad = Radial loading (N)  
 Fax = Axial loading (N)  
 a = distance from shaft's end (mm)



## P1V-S - Stainless Steel Air Motors

### Order key

(This model code can not be used for creating new part numbers except for optional function.  
All possible combinations between motor size, function and free speed are in the next pages).

P1V-S		020		A	0	E50	
Motor size		Function		Optional function		Free speed per min	
002	20 W	A	Keyed or flattened shaft	0	Standard vanes	0005	5
003	30 W	B	Keyed or flattened shaft right rotation	C*	Continuous lubrication-free operation	001	10
008	80 W	D	Threaded shaft - only for sizes 120, 200 & 300 watts	Z*	Standard spring loaded vanes	999	9990
012	120 W			M*	Cont. spring loaded vanes	A00	10000
020	200 W			D**	Standard with brake	E00	14000
028	285 W High torque			E**	Option C with brake	E50	14500
030	300 W			F**	Option Z with brake	N00	22000
057	570 W High torque			G**	Option M with brake	Q00	24000
060	600 W						
086	860 W High torque						
090	900 W						
120	1200 W						

Air motor range	
P1V-S	Stainless steel motor

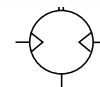
\* Not for P1V-S002, P1V-S003 and P1V-S008

\*\* Only for P1V-S020, P1V-S030 and P1V-S120

### Choice of vanes

0 = Standard vanes	C = Vanes for continuous lubrication-free operation	Z = Standard spring loaded vanes	M = Spring loaded vanes for continuous lubrication-free operation
These motors are of the vane type for intermittent lubrication-free operation. They can operate 70% of the time for up to 15 minutes without lubrication. With lubrication, these motors can operation 100% of the time.	This motor is equipped with vanes for continuous lubrication-free operation. (To obtain the longest possible service life, we recommend no oil in the air.)	All vanes are spring loaded to ensure that they remain pressed against the cylinder when the motor stops. The spring loaded vane option also prevents the vanes from sliding down in their track if vibration is introduced. The spring loaded vanes therefore provide a higher starting torque, improved starting and low speed characteristics, because the leakage over the vanes is reduced to a minimum.	Multi (combination of Z + C) see previous columns

NOTE! All technical data are based on a working pressure of 6 bar and with oil. For oil-free performances are -10 to 15% lower. Data tolerance accuracy  $\pm 10\%$



### Data for reversible air motor with flattened shaft, P1V-S002A series

Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0.02	1300	650	0.29	0.44	1.7	M5	3	0.16	<b>P1V-S002A0130</b>
0.02	950	475	0.40	0.60	1.7	M5	3	0.16	<b>P1V-S002A0095</b>

NOTE! Not available with vane options C, Z or M.

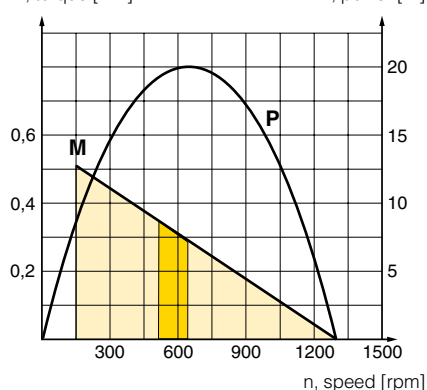
The P1V-S002A requires oil mist for lubricating the gearbox.

\* maximum admissible speed (idling)

#### P1V-S002A0130

M, torque [Nm]

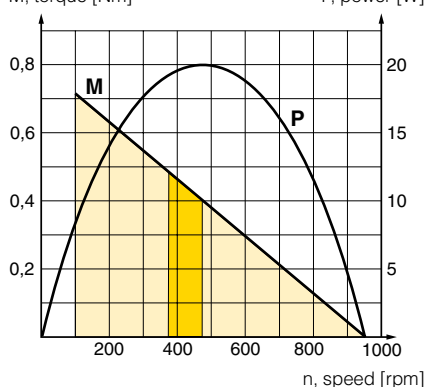
P, power [W]




#### P1V-S002A0095

M, torque [Nm]

P, power [W]

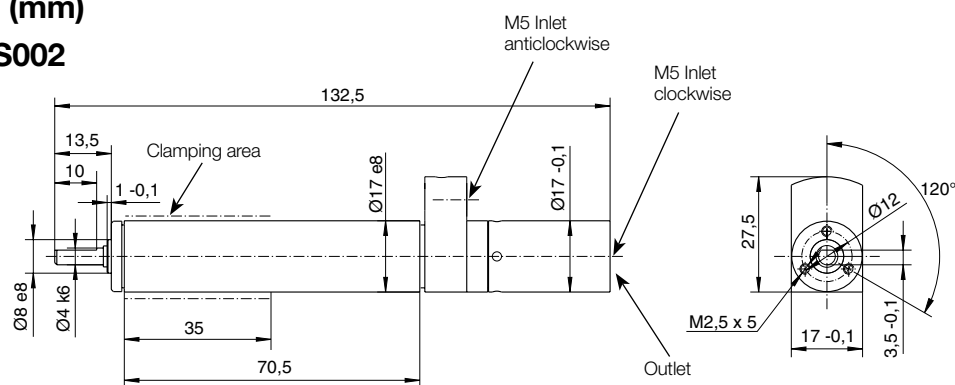


 Possible working range of motor.

 Optimum working range of motor.  
Higher speeds = more vane wear  
Lower speeds with high torque = more gearbox wear

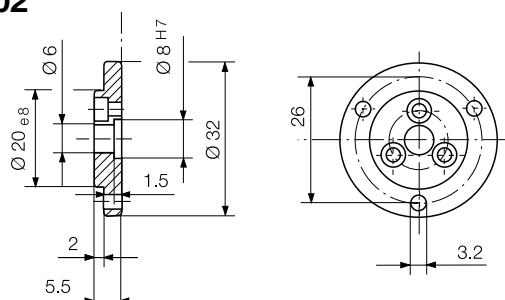
### Dimensions (mm)

#### Motor P1V-S002



#### Flange for P1V-S002

P1V-S4002B



NOTE! All technical data are based on a working pressure of 6 bar and with oil. For oil-free performances are -10 to 15% lower. Data tolerance accuracy  $\pm 10\%$



### Data for right rotation air motor with flattened shaft, P1V-S003B series

Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0.03	1000	500	0,57	0,85	1,7	M5	3	0,13	<b>P1V-S003B0100</b>

NOTE! Not available with vane options C, Z or M.

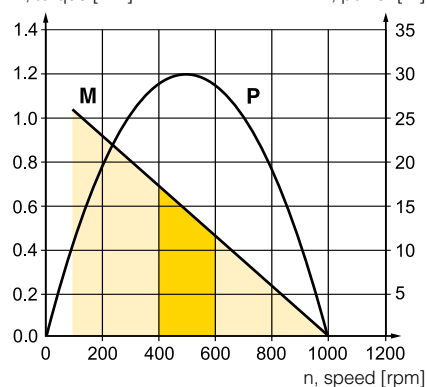
The P1V-S003A requires oil mist for lubricating the gearbox.

\* maximum admissible speed (idling)

### P1V-S003B0100

M, torque [Nm]

P, power [W]



**Possible working range of motor.**

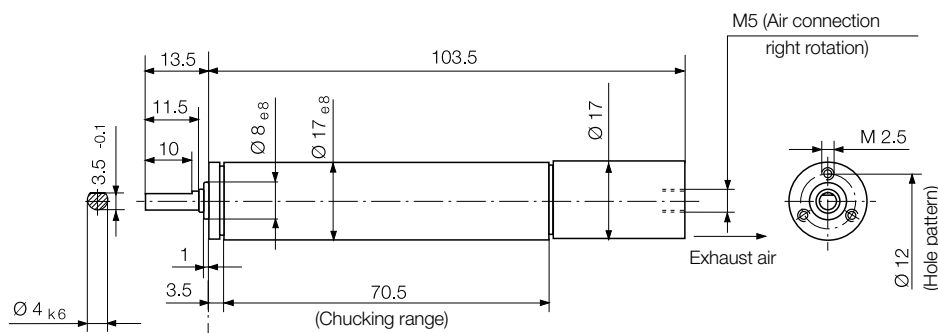


**Optimum working range of motor.**

Higher speeds = more vane wear

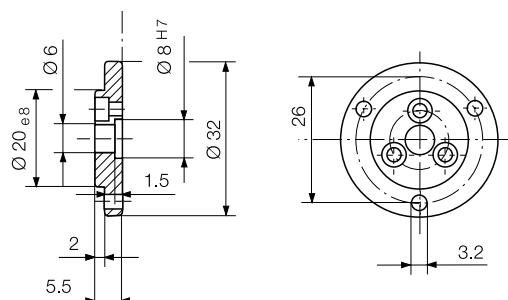
Lower speeds with high torque = more gearbox wear

### Motor P1V-S003



### Flange for P1V-S003

P1V-S4002B



NOTE! All technical data are based on a working pressure of 6 bar and with oil. For oil-free performances are -10 to 15% lower. Data tolerance accuracy  $\pm 10\%$



### Data for reversible air motor with flattened shaft, P1V-S008A series

Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0.08	22000	11000	0.06	0.09	3.8	M8x0.75**	4	0.20	<b>P1V-S008A0Q00</b>
0.08	7000	3500	0.22	0.33	3.8	M8x0.75**	4	0.20	<b>P1V-S008A0700</b>
0.08	1900	950	0.80	1.20	3.8	M8x0.75**	4	0.22	<b>P1V-S008A0190</b>
0.08	1300	650	1.20	1.80	3.8	M8x0.75**	4	0.22	<b>P1V-S008A0130</b>

\*\* 3 push in nipples for plastic pipe  $\varnothing 6/4$  supplied

NOTE! Not available with vane options C, Z or M.

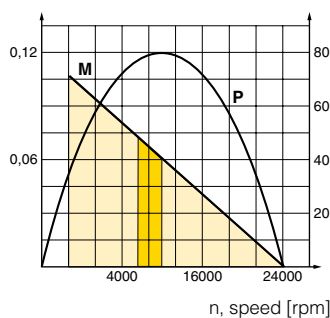
The P1V-S008A requires oil mist for lubricating the gearbox.

\* maximum admissible speed (idling)

#### P1V-S008A0Q00

M, torque [Nm]

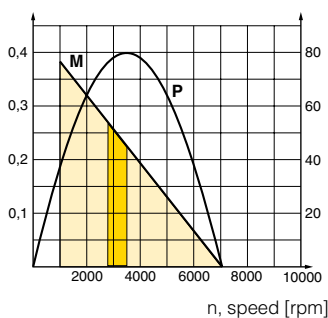
P, power [W]



#### P1V-S008A0700

M, torque [Nm]

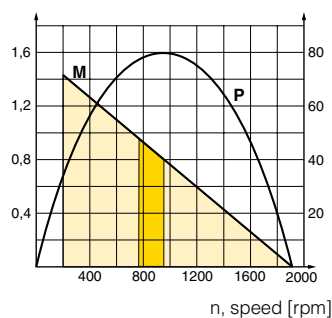
P, power [W]



#### P1V-S008A0190

M, torque [Nm]

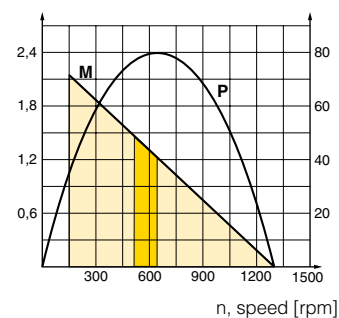
P, power [W]



#### P1V-S008A0130

M, torque [Nm]

P, power [W]



Possible working range of motor.



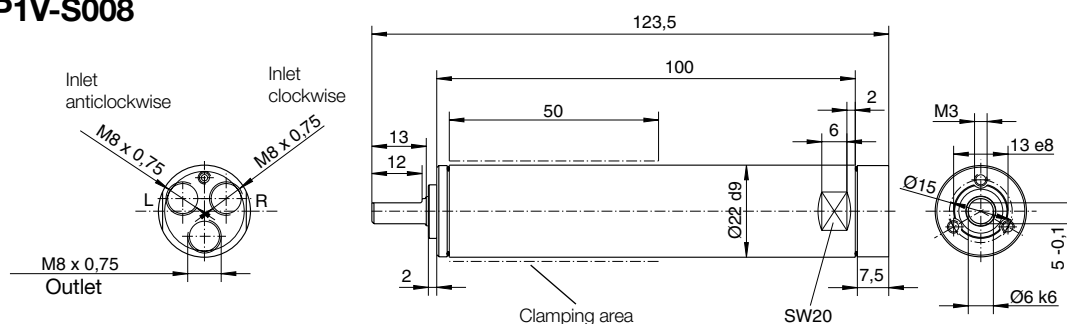
Optimum working range of motor.

Higher speeds = more vane wear

Lower speeds with high torque = more gearbox wear

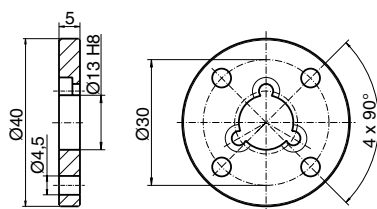
### Dimensions (mm)

#### Motor P1V-S008



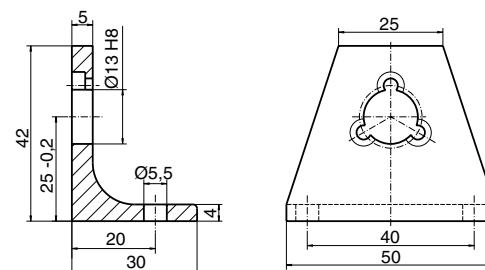
#### Flange

P1V-S4008B



#### Foot bracket

P1V-S4008F



NOTE! All technical data are based on a working pressure of 6 bar and with oil. For oil-free performances are -10 to 15% lower. Data tolerance accuracy ~+10%

CE II2 GD c IIC T6 (80 °C) X



## Data for reversible air motor, P1V-S012 series

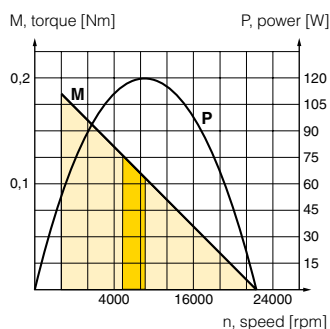
Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0.120	22000	11000	0.10	0.15	5.0	G1/8	6	0.350	<b>P1V-S012•0N00</b>
0.120	5500	2750	0.40	0.60	5.0	G1/8	6	0.350	<b>P1V-S012•0550</b>
0.120	3600	1800	0.60	0.90	5.0	G1/8	6	0.350	<b>P1V-S012•0360</b>
0.120	1400	700	1.60	2.40	5.0	G1/8	6	0.400	<b>P1V-S012•0140</b>
0.120	900	450	2.50	3.80	5.0	G1/8	6	0.400	<b>P1V-S012•0090</b>
0.120	600	300	3.80	5.00**	5.0	G1/8	6	0.400	<b>P1V-S012•0060</b>
0.090	100	50	5.00**	5.00**	5.0	G1/8	6	0.450	<b>P1V-S012•0010</b>

\*\* Max permitted torque for the gearbox

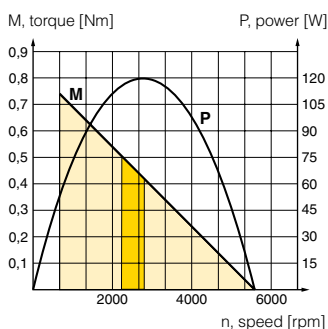
\* maximum admissible speed (idling)  
The P1V-S012D with threaded shaft may be reversed, but when operated anticlockwise, there is a risk that the driven unit may disconnect if it is not locked properly.

• A letter for keyed shaft, D for threaded end shaft

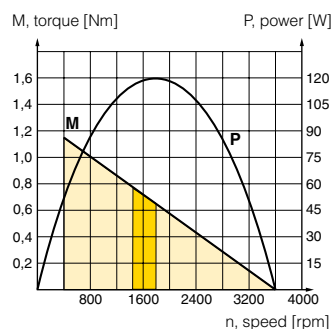
### P1V-S012•0N00



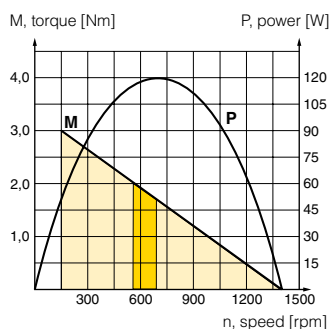
### P1V-S012•0550



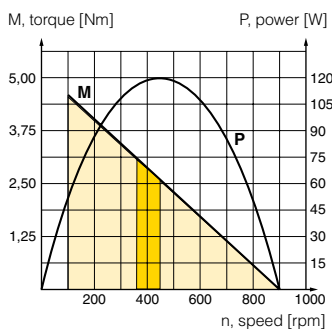
### P1V-S012•0360



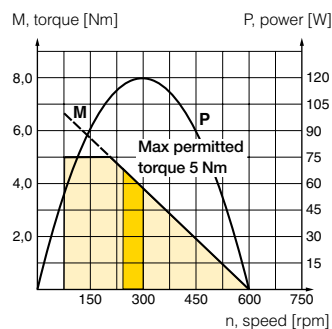
### P1V-S012•0140



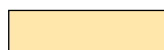
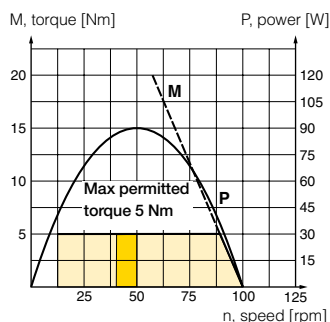
### P1V-S012•0090



### P1V-S012•0060



### P1V-S012•0010



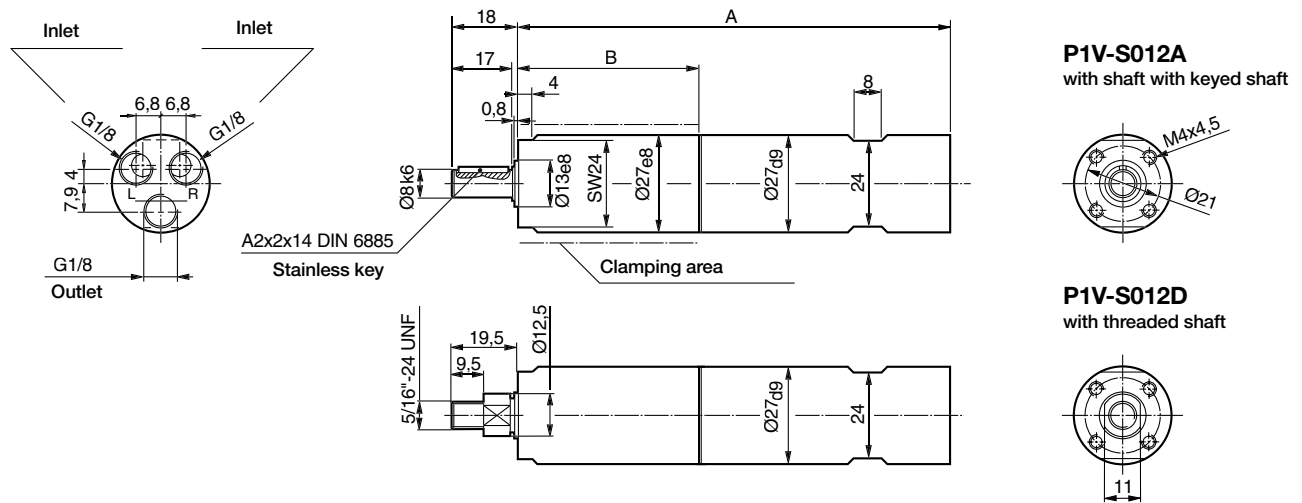
Possible working range of motor.



Optimum working range of motor.

Higher speeds = more vane wear

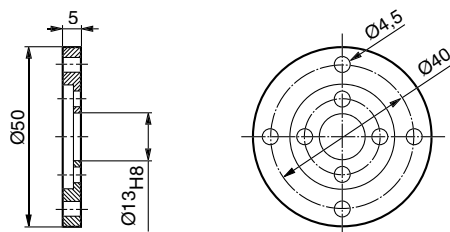
Lower speeds with high torque = more gearbox wear

**Dimensions (mm)****Motor P1V-S012**

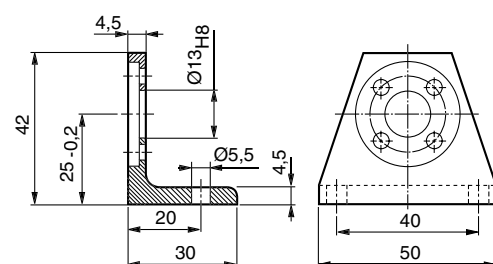
	<b>A</b>	<b>B</b>
P1V-S012A0N00, P1V-S012D0N00	117.0	46.5
P1V-S012A0550, P1V-S012D0550	117.0	46.5
P1V-S012A0360, P1V-S012D0360	117.0	46.5
P1V-S012A0140, P1V-S012D0140	129.5	59.0
P1V-S012A0090, P1V-S012D0090	129.5	59.0
P1V-S012A0060, P1V-S012D0060	129.5	59.0
P1V-S012A0010, P1V-S012D0010	142.0	71.5

**Flange**

P1V-S4012B

**Foot bracket**

P1V-S4012F





NOTE! All technical data are based on a working pressure of 6 bar and with oil. For oil-free performances are -10 to 15% lower. Data tolerance accuracy +-10%



CE II2 GD c IIC T6 (80 °C) X

## Data for reversible air motor, P1V-S020 series

Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0.200	14500	7250	0.26	0.40	6.2	G1/8	10	0.700	<b>P1V-S020•0E50</b>
0.200	4600	2300	0.80	1.20	6.2	G1/8	10	0.750	<b>P1V-S020•0460</b>
0.200	2400	1200	1.60	2.40	6.2	G1/8	10	0.750	<b>P1V-S020•0240</b>
0.200	1400	700	2.70	4.10	6.2	G1/8	10	0.850	<b>P1V-S020•0140</b>
0.200	700	350	5.40	8.20	6.2	G1/8	10	0.850	<b>P1V-S020•0070</b>
0.200	320	160	12.00	18.00	6.2	G1/8	10	0.850	<b>P1V-S020•0032</b>
0.100	180	90	10.50	15.00	4.5	G1/8	10	0.850	<b>P1V-S020•0018</b>
0.180	50	25	20**	20**	6.2	G1/8	10	0.950	<b>P1V-S020•0005</b>
0.180	20	10	20**	20**	6.2	G1/8	10	0.950	<b>P1V-S020A0002</b>
0.180	10	5	20**	20**	6.2	G1/8	10	1.050	<b>P1V-S020A0001</b>
0.180	5	2.5	20**	20**	6.2	G1/8	10	1.050	<b>P1V-S020A00005</b>

\*\* Max permitted torque to not damage the gearbox.

\* maximum admissible speed (idling)

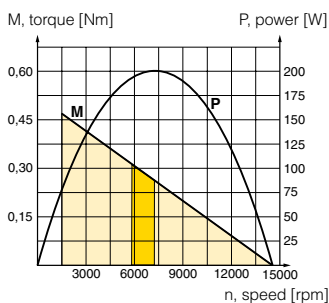
The P1V-S020D with threaded shaft may be reversed, but when operated anticlockwise, there is a risk that the driven unit may disconnect if it is not locked properly.

Possible working range of motor.

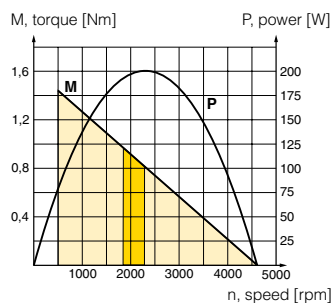
Optimum working range of motor.  
Higher speeds = more vane wear  
Lower speeds with high torque = more gearbox wear

• A letter for keyed shaft, D for threaded end shaft

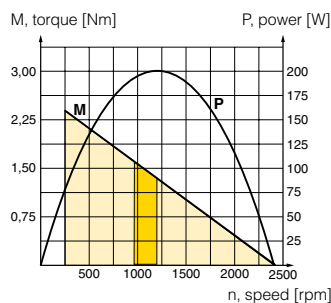
### P1V-S020•0E50



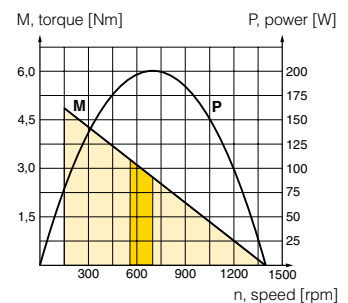
### P1V-S020•0460



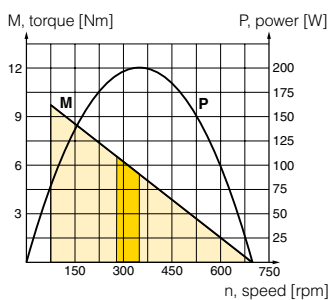
### P1V-S020•0240



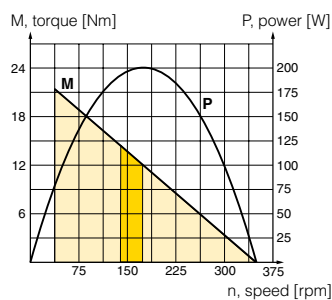
### P1V-S020•0140



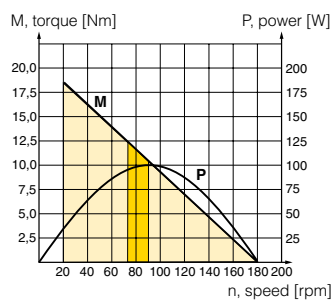
### P1V-S020•0070



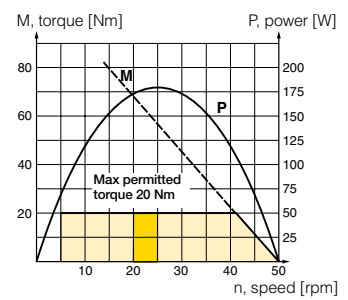
### P1V-S020•0032



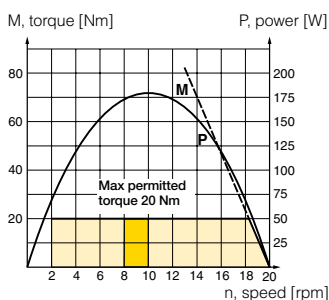
### P1V-S020•0018



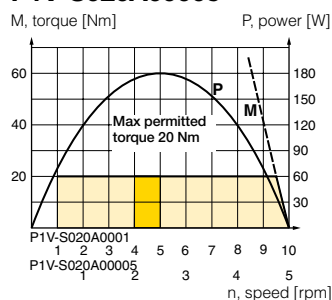
### P1V-S020•0005

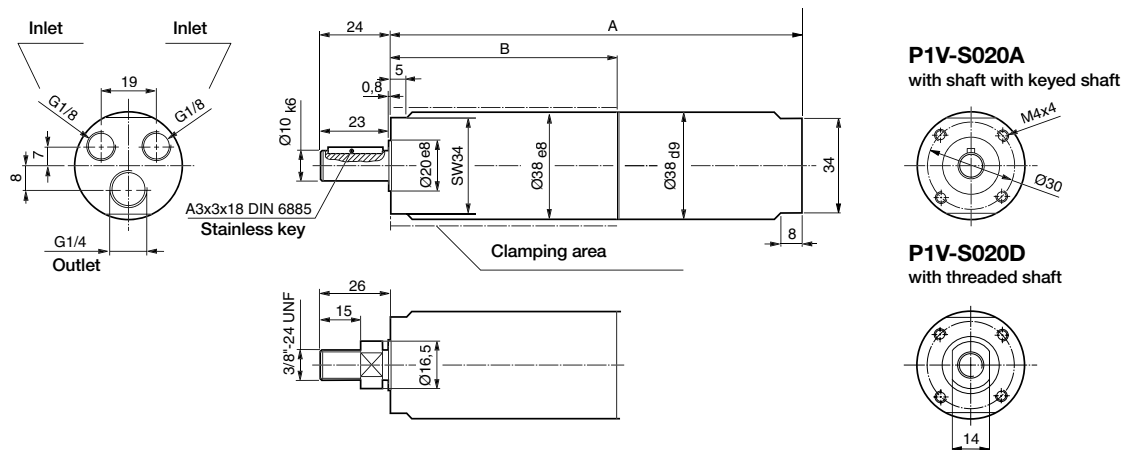


### P1V-S020A0002



### P1V-S020A0001 & P1V-S020A00005



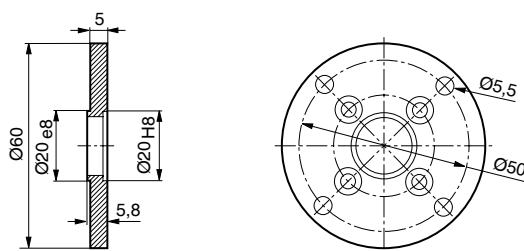
**Dimensions (mm)****Motor P1V-S020**

Note: end shaft has an internal threaded hole at its extremity for the keyed version only (not showed on the drawing)

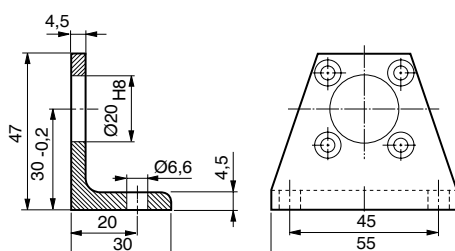
	<b>A</b>	<b>B</b>
P1V-S020A0E50, P1V-S020D0E50	127	63.5
P1V-S020A0460, P1V-S020D0460	127	63.5
P1V-S020A0240, P1V-S020D0240	127	63.5
P1V-S020A0140, P1V-S020D0140	143	79.5
P1V-S020A0070, P1V-S020D0070	143	79.5
P1V-S020A0032, P1V-S020D0032	143	79.5
P1V-S020A0018, P1V-S020D0018	143	79.5
P1V-S020A0005, P1V-S020D0005	159	95.5
P1V-S020A0002	159	95.5
P1V-S020A0001	175	111.5
P1V-S020A00005	175	111.5

**Flange**

P1V-S4020B

**Foot bracket**

P1V-S4020F



NOTE! All technical data are based on a working pressure of 6 bar and with oil. For oil-free performances are -10 to 15% lower. Data tolerance accuracy +-10%



CE II2 GD c IIC T6 (80 °C) X

## Data for reversible air motor, P1V-S030 series

Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0.300	14500	7250	0.40	0.60	7.8	G1/4	10	1.000	<b>P1V-S030•0E50</b>
0.300	4600	2300	1.20	1.90	7.8	G1/4	10	1.050	<b>P1V-S030•0460</b>
0.300	2400	1200	2.40	3.60	7.8	G1/4	10	1.050	<b>P1V-S030•0240</b>
0.300	1400	700	4.10	6.10	7.8	G1/4	10	1.100	<b>P1V-S030•0140</b>
0.300	600	300	9.60	14.30	7.8	G1/4	10	1.150	<b>P1V-S030•0060</b>
0.300	340	170	16.90	25.30	7.8	G1/4	10	1.150	<b>P1V-S030•0034</b>
0.300	230	115	24.00	36.00	7.8	G1/4	10	3.300	<b>P1V-S030A0023</b>
0.130	180	90	13.80	21.00	4.7	G1/4	10	1.150	<b>P1V-S030•0018</b>
0.300	100	50	57.00	85.50	7.8	G1/4	10	3.300	<b>P1V-S030A0010</b>
0.280	50	25	36**	36**	7.8	G1/4	10	1.250	<b>P1V-S030•0005</b>

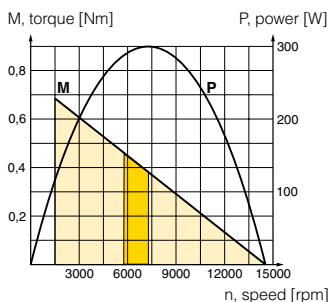
\*\* Max permitted torque to not damage the gearbox.

\* maximum admissible speed (idling)

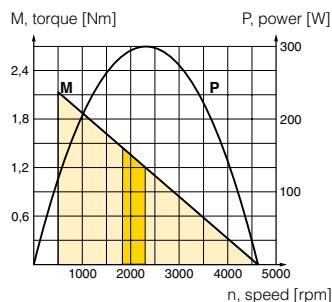
The P1V-S030D with threaded shaft may be reversed, but when operated anticlockwise, there is a risk that the driven unit may disconnect if it is not locked properly.

• A letter for keyed shaft, D for threaded end shaft

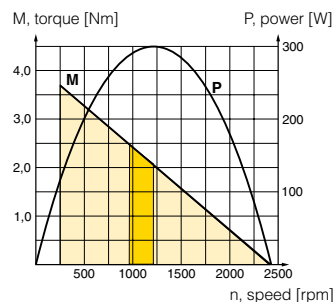
### P1V-S030•0E50



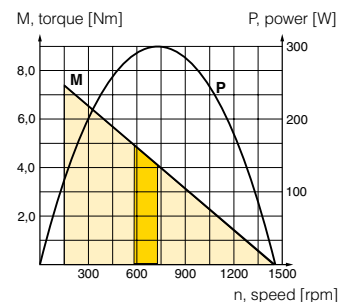
### P1V-S030•0460



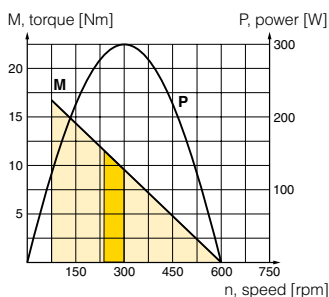
### P1V-S030•0240



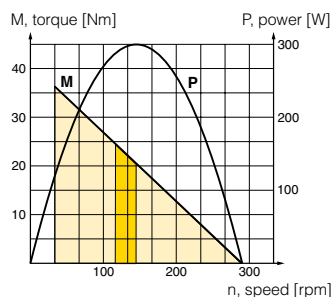
### P1V-S030•0140



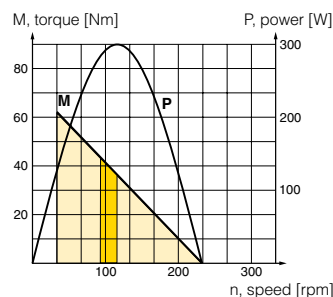
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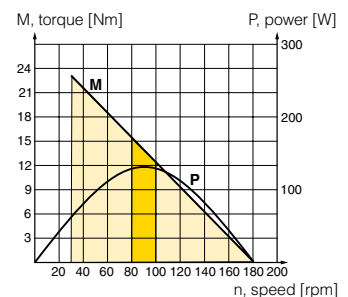
### P1V-S030•0034



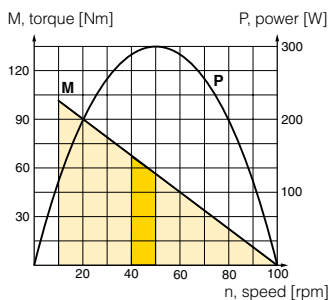
### P1V-S030A0023



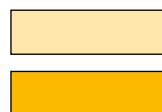
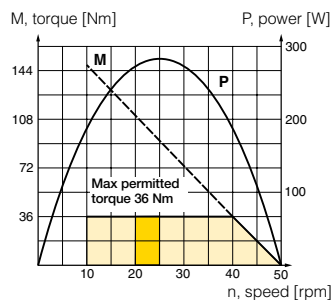
### P1V-S030•0018



### P1V-S030A0010



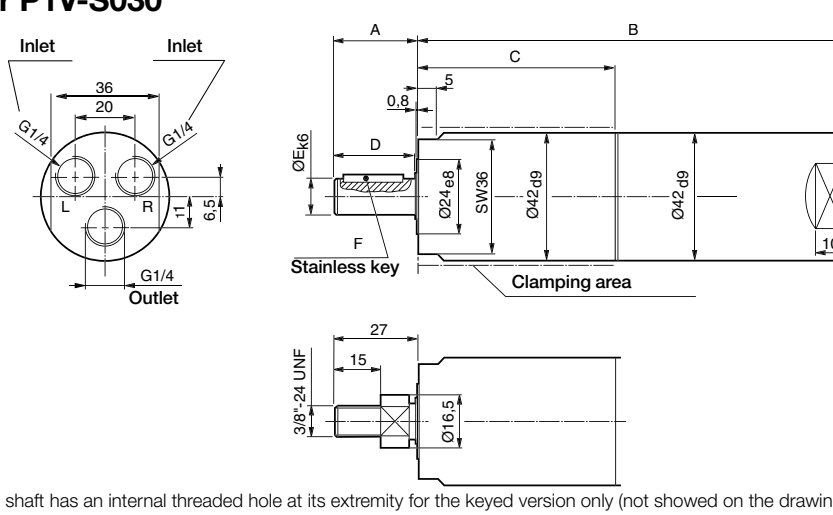
### P1V-S030•0005



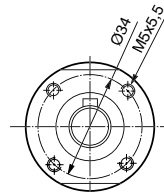
Possible working range of motor.

Optimum working range of motor.

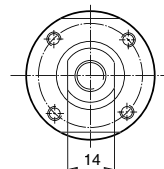
Higher speeds = more vane wear  
Lower speeds with high torque = more gearbox wear

**Dimensions (mm)****Motor P1V-S030****P1V-S030A**

with shaft with keyed shaft

**P1V-S030D**

with threaded shaft

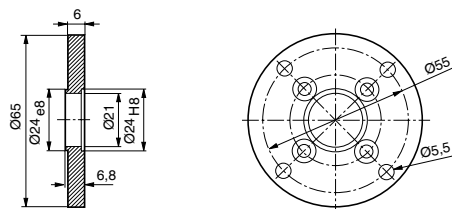


Note: end shaft has an internal threaded hole at its extremity for the keyed version only (not showed on the drawing)

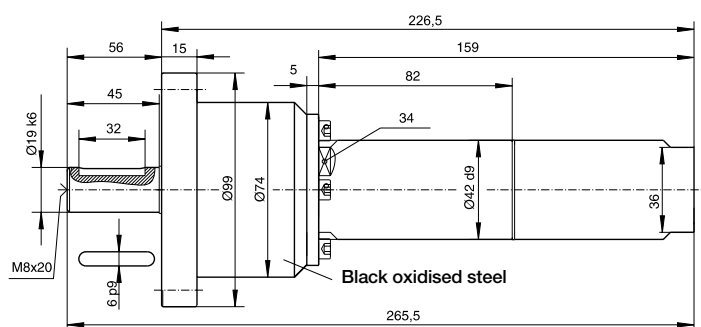
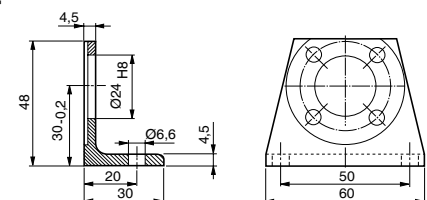
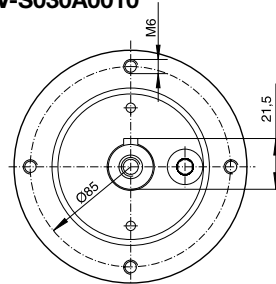
	A	B	C	D	E	F
P1V-S030A0E50, P1V-S030D0E50	28.5	143	66	27	12	A4x4x20 DIN 6885
P1V-S030A0460, P1V-S030D0460	28.5	143	66	27	12	A4x4x20 DIN 6885
P1V-S030A0240, P1V-S030D0240	28.5	143	66	27	12	A4x4x20 DIN 6885
P1V-S030A0140, P1V-S030D0140	28.5	159	82	27	12	A4x4x20 DIN 6885
P1V-S030A0060, P1V-S030D0060	32.0	159	82	30	14	A5x5x20 DIN 6885
P1V-S030A0034, P1V-S030D0034	32.0	159	82	30	14	A5x5x20 DIN 6885
P1V-S030A0018, P1V-S030D0018	32.0	159	82	30	14	A5x5x20 DIN 6885
P1V-S030A0005, P1V-S030D0005	32.0	164	82	30	14	A5x5x20 DIN 6885

**Flange**

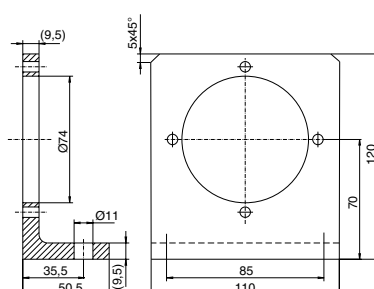
P1V-S4030B

**Foot bracket**

P1V-S4030F

**P1V-S030A0023****P1V-S030A0010****Foot bracket for motors****P1V-S030A0023 and P1V-S030A0010**

P1V-S4020C



NOTE! All technical data are based on a working pressure of 6 bar and with oil. For oil-free performances are -10 to 15% lower. Data tolerance accuracy ~+10%

CE II2 GD c IIC T6 (80 °C) X

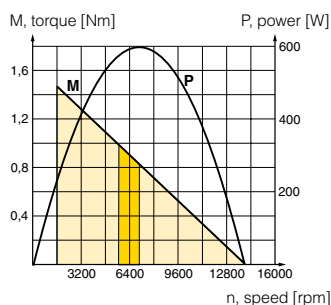


## Data for reversible air motor with keyed shaft, P1V-S060A series

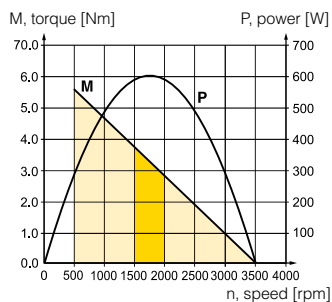
Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0.600	14000	7000	0.82	1.23	14.2	G3/8	12	2.200	<b>P1V-S060A0E00</b>
0.600	3500	1750	3.20	4.80	14.2	G3/8	12	2.300	<b>P1V-S060A0350</b>
0.600	2700	1350	4.20	6.40	14.2	G3/8	12	2.300	<b>P1V-S060A0270</b>
0.600	1700	850	6.70	10.10	14.2	G3/8	12	2.300	<b>P1V-S060A0170</b>
0.600	630	315	18.00	27.00	14.2	G3/8	12	2.600	<b>P1V-S060A0063</b>
0.600	480	240	24.00	36.00	14.2	G3/8	12	2.700	<b>P1V-S060A0048</b>
0.600	300	150	38.00	57.00	14.2	G3/8	12	2.700	<b>P1V-S060A0030</b>
0.300	150	75	38.00	57.00	14.2	G3/8	12	2.700	<b>P1V-S060A0015</b>

\* maximum admissible speed (idling)

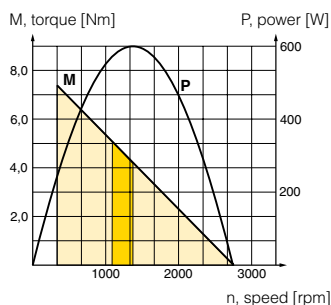
### P1V-S060A0E00



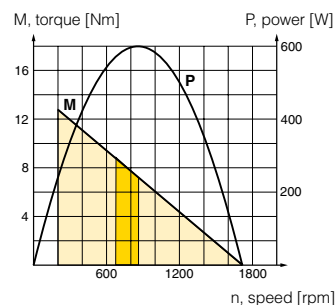
### P1V-S060A0350



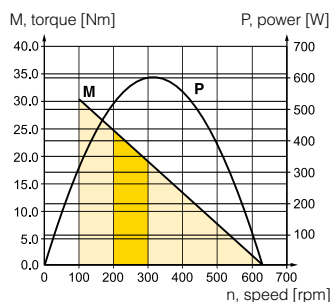
### P1V-S060A0270



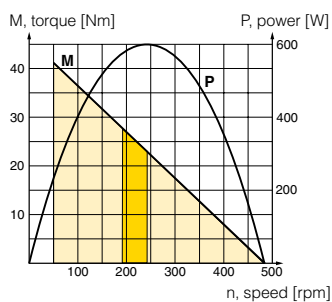
### P1V-S060A0170



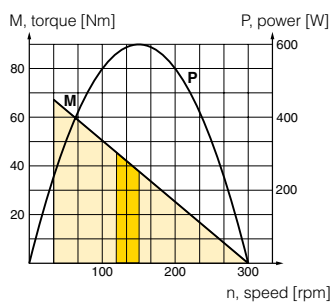
### P1V-S060A0063



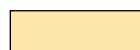
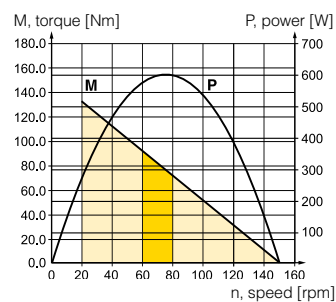
### P1V-S060A0048



### P1V-S060A0030



### P1V-S060A0015



Possible working range of motor.

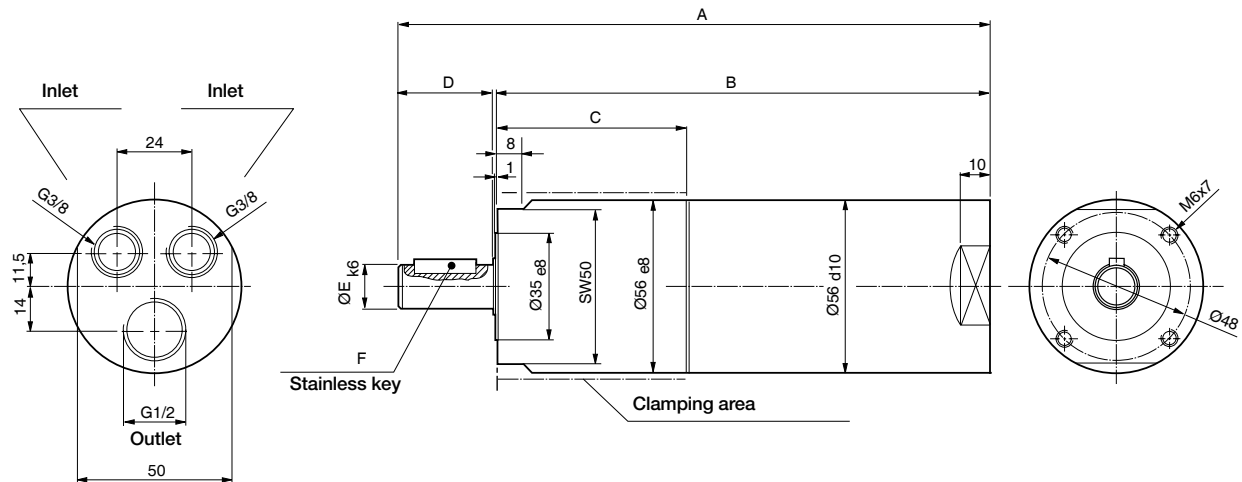


Optimum working range of motor.

Higher speeds = more vane wear  
Lower speeds with high torque = more gearbox wear

## Dimensions (mm)

## Motor P1V-S060

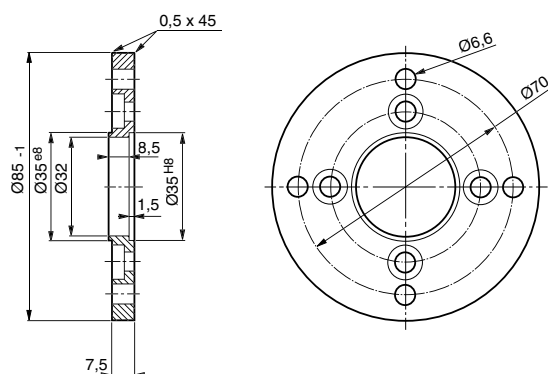


Note: end shaft has an internal threaded hole at its extremity for the keyed version only (not showed on the drawing)

	A	B	C	D	E	F
P1V-S060A0E00	197	165.5	66	30	14	A5x5x20 DIN 6885
P1V-S060A0350	197	165.5	66	30.5	14	A5x5x20 DIN 6885
P1V-S060A0270	197	165.5	66	30.5	14	A5x5x20 DIN 6885
P1V-S060A0170	197	165.5	66	30.5	14	A5x5x20 DIN 6885
P1V-S060A0063	215	183.5	84	30.5	14	A5x5x20 DIN 6885
P1V-S060A0048	217	180.0	80.5	36	19	A6x6x22 DIN 6885
P1V-S060A0030	217	180.0	80.5	36	19	A6x6x22 DIN 6885
P1V-S060A0015	217	180.0	80	35	19	A6x6x22 DIN 6885

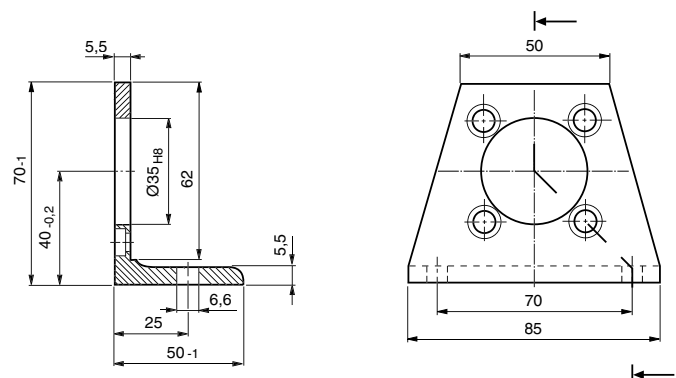
## Flange

P1V-S4060B



## Foot bracket

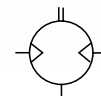
P1V-S4060F





NOTE! All technical data are based on a working pressure of 6 bar and with oil. For oil-free performances are -10 to 15% lower. Data tolerance accuracy  $\pm 10\%$

CE II2 GD c IIC T6 (80 °C) X



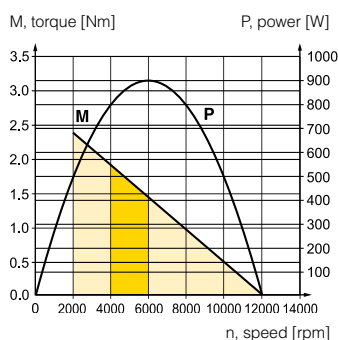
## Data for reversible air motor with keyed shaft, P1V-S090A series

Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0.900	12000	6000	1.40	2.10	23.3	G1/2	12	2.500	<b>P1V-S090A0C00</b>
0.900	3500	1750	4.90	7.30	23.3	G1/2	12	2.600	<b>P1V-S090A0350</b>
0.900	2700	1350	6.30	9.50	23.3	G1/2	12	2.600	<b>P1V-S090A0270</b>
0.900	1700	850	10.10	15.20	23.3	G1/2	12	2.600	<b>P1V-S090A0170</b>
0.900	630	315	27.00	40.00	23.3	G1/2	12	2.900	<b>P1V-S090A0063</b>
0.900	480	240	35.00	53.00	23.3	G1/2	12	3.000	<b>P1V-S090A0048</b>
0.900	300	150	57.00	85.00	23.3	G1/2	12	3.000	<b>P1V-S090A0030</b>

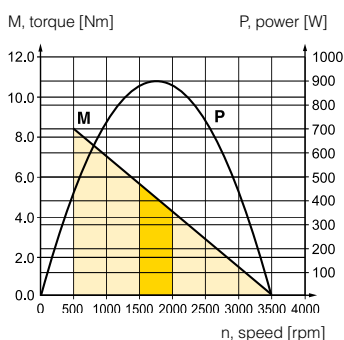
\*\* Max permitted torque to not damage the gearbox.

\* Maximum admissible speed (idling)

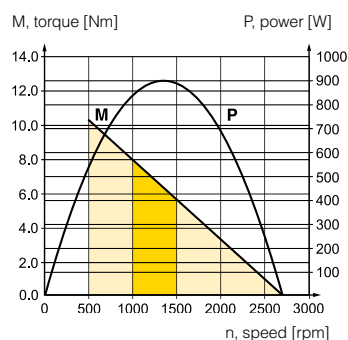
### P1V-S090A0C00



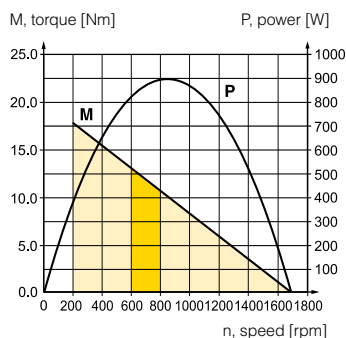
### P1V-S090A0350



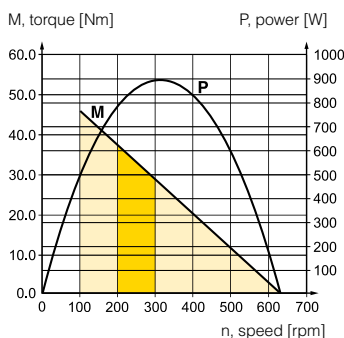
### P1V-S090A0270



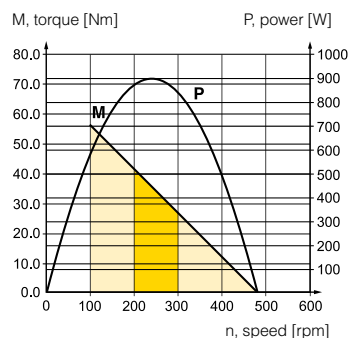
### P1V-S090A0170



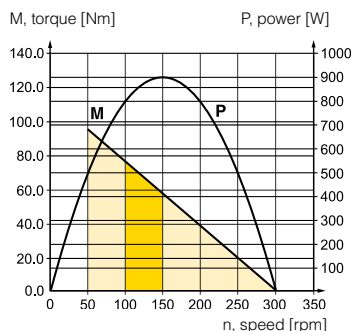
### P1V-S090A0063



### P1V-S090A0048



### P1V-S090A0030



Possible working range of motor.



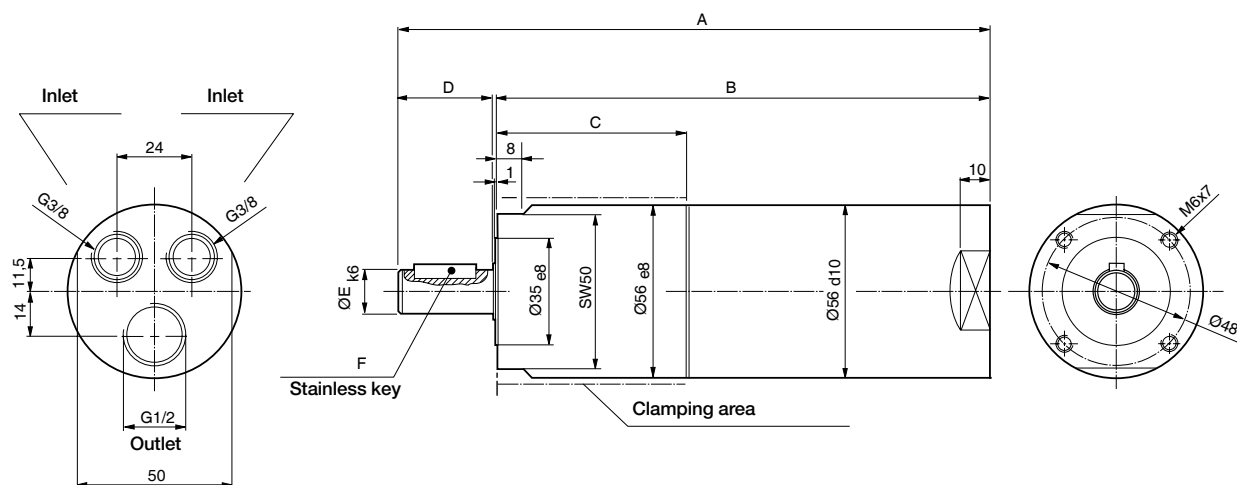
Optimum working range of motor.

Higher speeds = more vane wear

Lower speeds with high torque = more gearbox wear

## Dimensions (mm)

## Motor P1V-S090

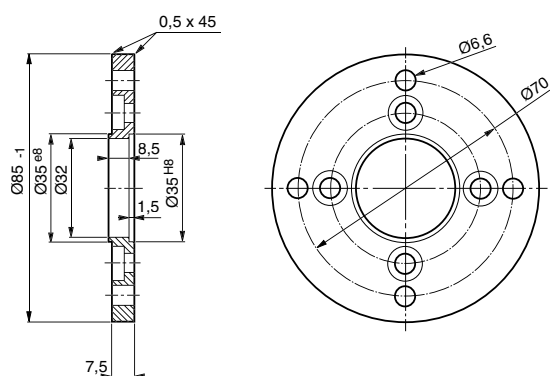


Note: end shaft has an internal threaded hole at its extremity for the keyed version only (not showed on the drawing)

	A	B	C	D	E	F
P1V-S090A0C00	217	185.5	67	30.5	14	A5x5x20 DIN 6885
P1V-S090A0350	217	185.5	67	30.5	14	A5x5x20 DIN 6885
P1V-S090A0270	217	185.5	67	30.5	14	A5x5x20 DIN 6885
P1V-S090A0170	217	185.5	67	30.5	14	A5x5x20 DIN 6885
P1V-S090A0063	235	203.5	85	30.5	14	A5x5x20 DIN 6885
P1V-S090A0048	237	200.0	81	36	19	A6x6x22 DIN 6885
P1V-S090A0030	237	200.0	81	36	19	A6x6x22 DIN 6885

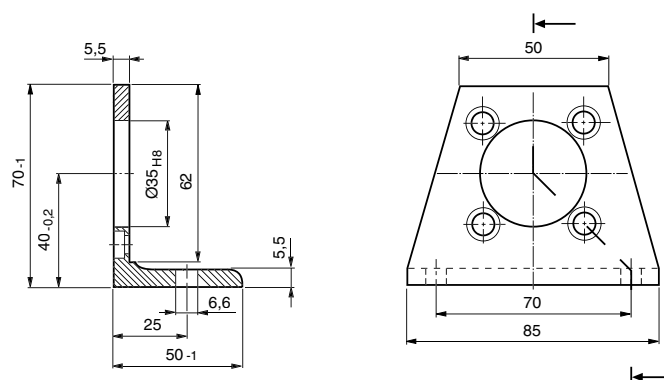
## Flange

P1V-S4060B



## Foot bracket

P1V-S4060F



NOTE! All technical data are based on a working pressure of 6 bar and with oil. For oil-free performances are -10 to 15% lower. Data tolerance accuracy  $\pm 10\%$



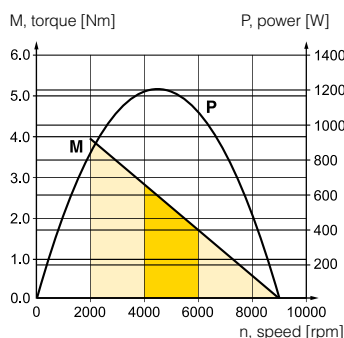
CE II2 GD c IIC T5 (95 °C) X

### Data for reversible air motor with keyed shaft, P1V-S120A series

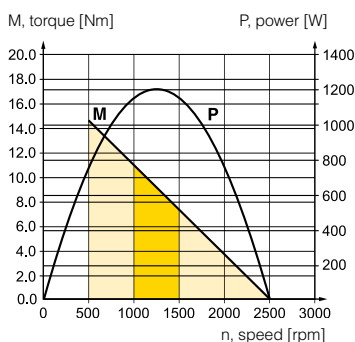
Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
1.200	9000	4500	2.50	3.80	26.7	G3/4	19	5.5	<b>P1V-S120A0900</b>
1.200	2500	1250	9.20	13.70	26.7	G3/4	19	5.5	<b>P1V-S120A0250</b>
1.200	1100	550	21.00	31.00	26.7	G3/4	19	6.1	<b>P1V-S120A0110</b>
1.200	700	350	33.00	49.00	26.7	G3/4	19	5.6	<b>P1V-S120A0070</b>
1.200	320	160	71.00	107.00	26.7	G3/4	19	6.7	<b>P1V-S120A0032</b>
0.700	200	100	66.90	100.00	19	G3/4	19	6.7	<b>P1V-S120A0020</b>

\* Maximum admissible speed (idling)

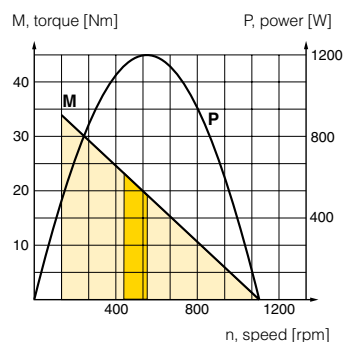
#### P1V-S120A0900



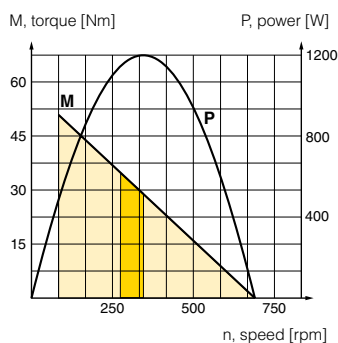
#### P1V-S120A0250



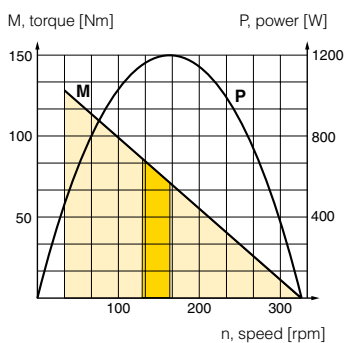
#### P1V-S120A0110



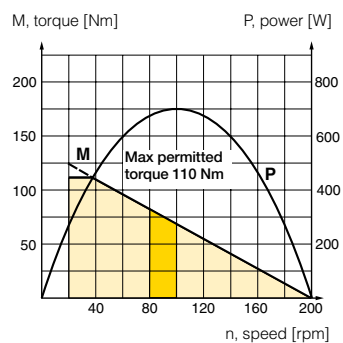
#### P1V-S120A0070



#### P1V-S120A0032



#### P1V-S120A0020



 Possible working range of motor.

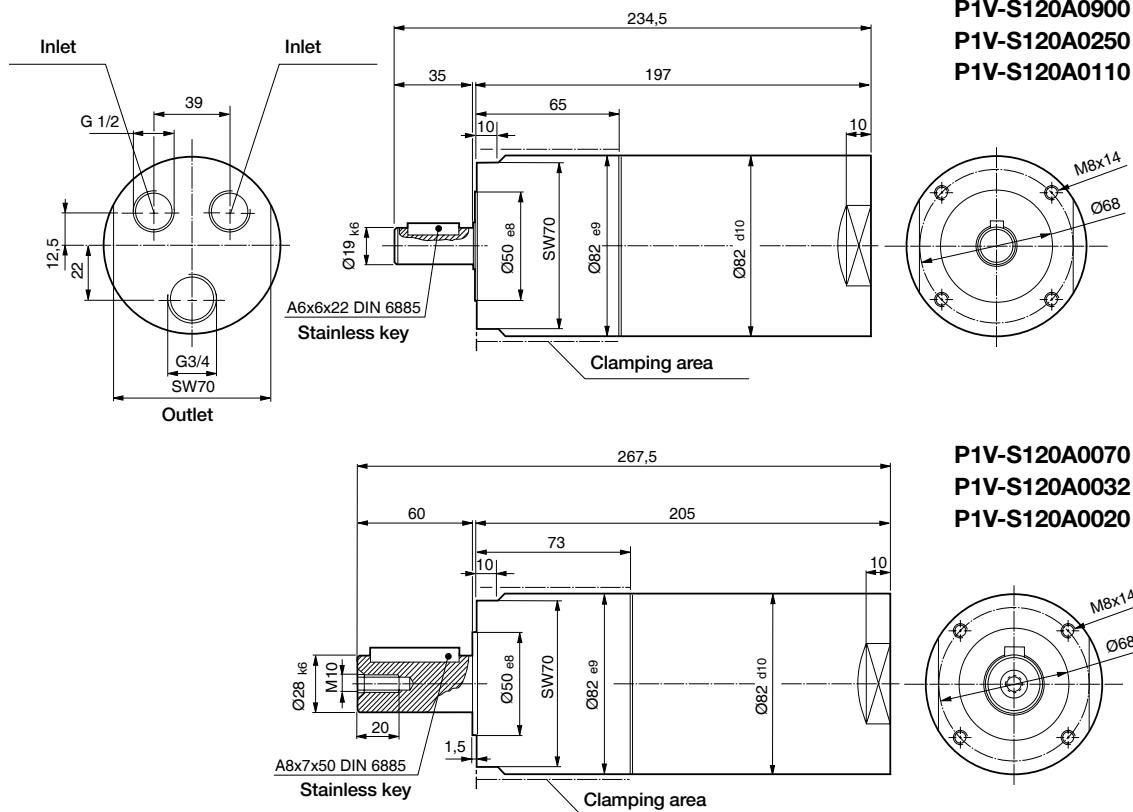
 Optimum working range of motor.

Higher speeds = more vane wear

Lower speeds with high torque = more gearbox wear

## Dimensions (mm)

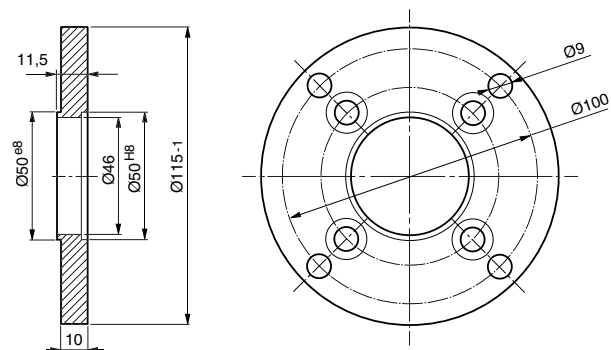
## Motor P1V-S120



Note: end shaft has an internal threaded hole at its extremity

## Flange

P1V-S4120B



## Foot bracket

P1V-S4120F

