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.

- Power from 0,02 kW to 1,2 kW
- ATEX CE Ex approved from 0,12 kW to 1,2 kW
- Designed for arduous applications
- No-lube intermittent operation as standard
- 0,2 kW and 0,3 kW Brakemotors for higher safety

For ATEX specific products contact Sales Office

Note: All air motors can be operated oil-free without special adaptation with only a 20% reduction of power.

Operating information

Working presure: Max 7 bar (max 6 bar in Ex area)
Working temperature: -30° to +100° C (-20° to +40°C in Ex area)
Fluid: Compressed air with ISO 8573-1 Quaility class 3.4.3 (no-lube operation) and 3.-.5 (lube operation)
ATEX approval: CE Ex II 2 GD c IIC T6 (80°C)X
CE Ex II 2 GD c IIC T5 (95°C)X

Note: All technical data is based on a working pressure of 6 bar in the inlet port

Reversible air motors

Keyed shaft, P1V-S002A series, 20 watt - (M5)

Max output kW	Free speed rpm	Speed at max output r/min	Torque at max output Nm	Min start torque Nm	Air consumption at max output l/s	Conn.	Min pipe ID	Order code
0,02	1300	650	0,29	0,44	1.7	M5	3	**P1V-S002A0130**
0,02	950	475	0,40	0,60	1.7	M5	3	**P1V-S002A0095**

Keyed shaft, P1V-S008A series, 80 watt - (M8 x 0,75, 3 push in nippels for plastic pipes Ø6/4 mm supplied)

0,08	24000	12000	0,06	0,09	3.5	M8 x 0,75*	4	**P1V-S008A0Q00**
0,08	7000	3500	0,22	0,33	3.5	M8 x 0,75*	4	**P1V-S008A0700**
0,08	1900	950	0,80	1,20	3.5	M8 x 0,75*	4	**P1V-S008A0190**
0,08	1300	650	1,20	1,80	3.5	M8 x 0,75*	4	**P1V-S008A0130**

Keyed shaft, P1V-S012A series, 120 watt - (G1/8)

CE Ex II2GD cIIC T6 (80°C) X

0,12	22000	11000	0,10	0,15	5.0	G1/8	6	**P1V-S012A0N00**
0,12	5500	2750	0,42	0,63	5.0	G1/8	6	**P1V-S012A0550**
0,12	3600	1800	0,64	0,95	5.0	G1/8	6	**P1V-S012A0360**
0,12	1400	700	1,64	2,40	5.0	G1/8	6	**P1V-S012A0140**
0,12	900	450	2,54	3,80	5.0	G1/8	6	**P1V-S012A0090**
0,12	600	300	3,82	5,00*	5.0	G1/8	6	**P1V-S012A0060**
0,12	100	50	5,00*	5,00*	5.0	G1/8	6	**P1V-S012A0010**

Threaded shaft, P1V-S012D series, 120 watt - (G1/8)

CE Ex II2GD cIIC T6 (80°C) X

0,12	22000	11000	0,10	0,15	5.0	G1/8	6	**P1V-S012D0N00**
0,12	5500	2750	0,42	0,63	5.0	G1/8	6	**P1V-S012D0550**
0,12	3600	1800	0,64	0,95	5.0	G1/8	6	**P1V-S012D0360**
0,12	1400	700	1,64	2,40	5.0	G1/8	6	**P1V-S012D0140**
0,12	900	450	2,54	3,80	5.0	G1/8	6	**P1V-S012D0090**
0,12	600	300	3,82	5,00*	5.0	G1/8	6	**P1V-S012D0060**
0,12	100	50	5,00*	5,00*	5.0	G1/8	6	**P1V-S012D0010**

Keyed shaft, P1V-S020A series, 200 watt - (G1/8)

CE Ex II2GD cIIC T6 (80°C) X

0,20	14500	7250	0,26	0,40	6.3	G1/8	10	**P1V-S020A0E50**
0,20	4600	2300	0,80	1,20	6.3	G1/8	10	**P1V-S020A0460**
0,20	2400	1200	1,60	2,40	6.3	G1/8	10	**P1V-S020A0240**
0,20	1400	700	2,70	4,10	6.3	G1/8	10	**P1V-S020A0140**
0,20	700	350	5,40	8,20	6.3	G1/8	10	**P1V-S020A0070**
0,20	350	160	12,00	18,00	6.3	G1/8	10	**P1V-S020A0035**
0,10	180	90	10,50	15,00	6.3	G1/8	10	**P1V-S020A0018**
0,20	110	55	33,00	49,50	6.3	G1/8	10	**P1V-S020A0011**
0,20	60	30	72,00	108,00*	6.3	G1/8	10	**P1V-S020A0006**
0,18	50	25	20,00*	20,00*	6.3	G1/8	10	**P1V-S020A0005**
0,18	20	-	20,00*	20,00*	6.3	G1/8	10	**P1V-S020A0002**
0,18	10	-	20,00*	20,00*	6.3	G1/8	10	**P1V-S020A0001**
0,20	5	-	20,00*	20,00*	6.3	G1/8	10	**P1V-S020A00005**

* Max allowed torque

Reversible air motors

Threaded shaft, P1V-S020D series, 200 watt - (G1/8)

CE Ex II2GD cIIC T6 (80°C) X

Max output kW	Free speed rpm	Speed at max output r/min	Torque at max output Nm	Min start torque Nm	Air consumption at max output l/s	Conn.	Min pipe ID	Order code
0,20	14500	7250	0,26	0,40	6.3	G1/8	10	**P1V-S020D0E50**
0,20	4600	2300	0,80	1,20	6.3	G1/8	10	**P1V-S020D0460**
0,20	2400	1200	1,60	2,40	6.3	G1/8	10	**P1V-S020D0240**
0,20	1400	700	2,70	4,10	6.3	G1/8	10	**P1V-S020D0140**
0,20	700	350	5,40	8,20	6.3	G1/8	10	**P1V-S020D0070**
0,20	350	160	12,00	18,00	6.3	G1/8	10	**P1V-S020D0035**
0,10	180	90	10,50	15,00	4.5	G1/8	10	**P1V-S020D0018**
0,20	50	25	20,00*	20,00*	6.3	G1/8	10	**P1V-S020D0005**

Keyed shaft, P1V-S030A series, 300 watt - (G1/4)

CE Ex II2GD cIIC T6 (80°C) X

0,30	14500	7250	0,40	0,60	8.0	G1/4	10	**P1V-S030A0E50**
0,30	4600	2300	1,20	1,90	8.0	G1/4	10	**P1V-S030A0460**
0,30	2400	1200	2,40	3,60	8.0	G1/4	10	**P1V-S030A0240**
0,30	1400	700	4,10	6,10	8.0	G1/4	10	**P1V-S030A0140**
0,30	600	300	9,60	14,30	8.0	G1/4	10	**P1V-S030A0060**
0,30	280	140	20,50	26,00	8.0	G1/4	10	**P1V-S030A0028**
0,30	230	115	24,00	36,00	8.0	G1/4	10	**P1V-S030A0023**
0,13	180	90	13,80	21,00	4.7	G1/4	10	**P1V-S030A0018**
0,30	100	50	57,00	85,50	8.0	G1/4	10	**P1V-S030A0010**
0,30	50	25	36,00*	36,00*	8.0	G1/4	10	**P1V-S030A0005**

Threaded shaft, P1V-S030D series, 300 watt - (G1/4)

CE Ex II2GD cIIC T6 (80°C) X

0,30	14500	7250	0,40	0,60	8.0	G1/4	10	**P1V-S030D0E50**
0,30	4600	2300	1,20	1,90	8.0	G1/4	10	**P1V-S030D0460**
0,30	2400	1200	2,40	3,60	8.0	G1/4	10	**P1V-S030D0240**
0,30	1400	700	4,10	6,10	8.0	G1/4	10	**P1V-S030D0140**
0,30	600	300	9,60	14,30	8.0	G1/4	10	**P1V-S030D0060**
0,30	280	140	20,50	26,00	8.0	G1/4	10	**P1V-S030D0028**
0,13	180	90	13,80	21,00	4.7	G1/4	10	**P1V-S030D0018**
0,30	50	25	36,00*	36,00*	8.0	G1/4	10	**P1V-S030D0005**

Keyed shaft, P1V-S060A series, 600 watt - (G3/8)

CE Ex II2GD cIIC T6 (80°C) X

0,60	14000	7000	0,82	1,23	14.5	G3/8	12	**P1V-S060A0E00**
0,60	4000	2000	2,90	4,30	14.5	G3/8	12	**P1V-S060A0400**
0,60	2700	1350	4,20	6,40	14.5	G3/8	12	**P1V-S060A0270**
0,60	1700	850	6,70	10,10	14.5	G3/8	12	**P1V-S060A0170**
0,60	720	360	15,90	24,00	14.5	G3/8	12	**P1V-S060A0072**
0,60	480	240	23,90	36,00	14.5	G3/8	12	**P1V-S060A0048**
0,60	300	150	38,20	57,00	14.5	G3/8	12	**P1V-S060A0030**
0,30	100	50	60,00*	60,00*	14.5	G3/8	12	**P1V-S060A0010**

Keyed shaft, P1V-S120A series, 1200 watt - (G3/4)

CE Ex II2GD cIIC T5 (95°C) X

1,20	8000	4000	2,90	4,30	27,0	G3/4	19	**P1V-S120A0800**
1,20	2700	1350	8,50	12,70	27,0	G3/4	19	**P1V-S120A0270**
1,20	1100	550	21,00	31,00	27,0	G3/4	19	**P1V-S120A0110**
1,20	780	390	29,40	44,00	27,0	G3/4	19	**P1V-S120A0078**
1,20	320	160	71,60	107,00	27,0	G3/4	19	**P1V-S120A0032**
1,20	200	100	66,90	110,00*	19,0	G3/4	19	**P1V-S120A0012**

* Max allowed torque

Brake motors

The integrated brake is a spring-loaded disk brake, which is released at a minimum air pressure of 5 bar. The brake is applied in the absence of pressure.

The technology and the size of air motors with integrated running and stationary brake make them ideal for applications requiring repeated precise positioning.

The motor can also be kept stationary in a specific position, and the stopping time for a rotating weight can be shortened significantly. Another typical application for brake motors is when the output shaft needs to be held in one position when the motor stops delivering torque.

The brake can handle more than 1500 braking operations per hour at maximum braking torque.

Note!
Brake motors must only ever be supplied with unlubricated air, otherwise there is a risk of oil from the supply air getting into the brake unit, resulting in poor brake performance or no braking effect.

Please check the allowed maximum torque applied on the motor from the load in the technical catalogue

Brake motors with keyed shaft, P1V-S020AD series, 200 watt - (G1/8)

Max output kW	Free speed rpm	Speed at max output r/min	Torque at max output Nm	Min start torque Nm	Air consumption at max output l/s	Conn.	Min pipe ID	Order code
0,20	14500	7250	0,26	0,40	6.3	G1/8	10	**P1V-S020ADE50**
0,20	4600	2300	0,80	1,20	6.3	G1/8	10	**P1V-S020AD460**
0,20	2400	1200	1,60	2,40	6.3	G1/8	10	**P1V-S020AD240**
0,20	1400	700	2,70	4,10	6.3	G1/8	10	**P1V-S020AD140**
0,20	700	350	5,40	8,20	6.3	G1/8	10	**P1V-S020AD070**
0,20	350	160	12,00	18,00	6.3	G1/8	10	**P1V-S020AD035**
0,10	180	90	10,50	15,00	4.5	G1/8	10	**P1V-S020AD018**
0,20	110	55	33,00	49,50	6.3	G1/8	10	**P1V-S020AD011**
0,20	60	30	72,00	108,00*	6.3	G1/8	10	**P1V-S020AD006**
0,18	50	25	20,00*	20,00*	6.3	G1/8	10	**P1V-S020AD005**
0,18	20	-	20,00*	20,00*	6.3	G1/8	10	**P1V-S020AD002**
0,18	10	-	20,00*	20,00*	6.3	G1/8	10	**P1V-S020AD005**
0,18	5	-	20,00*	20,00*	6.3	G1/8	10	**P1V-S020AD0005**

Brake motors with keyed shaft, P1V-S030AD series, 300 watt - (G1/4)

0,30	14500	7250	0,40	0,60	8.0	G1/4	10	**P1V-S030ADE50**
0,30	4600	2300	1,20	1,90	8.0	G1/4	10	**P1V-S030AD460**
0,30	2400	1200	2,40	3,60	8.0	G1/4	10	**P1V-S030AD240**
0,30	1400	700	4,10	6,10	8.0	G1/4	10	**P1V-S030AD140**
0,30	600	300	9,60	14,30	8.0	G1/4	10	**P1V-S030AD060**
0,30	280	140	20,50	26,00	8.0	G1/4	10	**P1V-S030AD028**
0,30	230	115	24,00	36,00	8.0	G1/4	10	**P1V-S030AD023**
0,30	100	50	57,00	85,50	8.0	G1/4	10	**P1V-S030AD010**
0,30	50	25	36,00*	36,00*	8.0	G1/4	10	**P1V-S030AD005**

* Max allowed torque

P1V-S Accessories

Flange

For air motor	For drilling motor	Order code
P1V-S002		**P1V-S4002B**
P1V-S008	P1V-S008	**P1V-S4008B**
P1V-S012		**P1V-S4012B**
P1V-S020	P1V-S025	**P1V-S4020B**
P1V-S030	P1V-S040	**P1V-S4030B**
P1V-S060		**P1V-S4060B**
P1V-S120		**P1V-S4120B**

Foot

For air motor	For drilling motor	Order code
P1V-S008	P1V-S008	**P1V-S4008F**
P1V-S012		**P1V-S4012F**
P1V-S020	P1V-S025	**P1V-S4020F**
P1V-S030	P1V-S040	**P1V-S4030F**
P1V-S020A0011		**P1V-S4020C**
P1V-S020A0006		**P1V-S4020C**
P1V-S020A0023		**P1V-S4020C**
P1V-S020A0010		**P1V-S4020C**
P1V-S060		**P1V-S4060F**
P1V-S120		**P1V-S4120F**

Design Variants

Drilling, milling and grinding motors

A large number of drilling motors, milling motors and grinding motors have been developed using the P1V-S as the base motor in order to make it easier to install air motors in machining applications. These motors are all equipped with standard vanes for intermittent lubrication-free operation, although it is recommended to use oil mist if you are planning to operate them for extended periods.

Note! These motors are not made of 100% stainless steel.

Drilling motors are available with power ratings of 80, 170, 250 and 400 Watts, and several different speeds for the machining of a range of materials. They can be fitted with collet chucks, drill chucks and quick-release chucks. Many of them also have accessories allowing the exhaust air to be removed.

The milling motor, with a power rating of 400 Watts, runs at a relatively high speed, and is fitted with a collet chuck for a shaft diameter of 8 mm. It is equipped with strong bearings able to handle greater shear forces on the spindle.

The grinding motor, with a power rating of 200 Watts, is fitted with a collet chuck for a shaft diameter of 8 mm and runs at a relatively high speed. It is equipped with strong bearings able to handle greater shear forces on the spindle.

The design principle of the 90 Watt grinding motor is different from the others. The turbine principle means that high speeds are possible without the need for lubrication.

Feed movement in drilling, milling and grinding motors

A slow and even feed movement is necessary in machining applications. During drilling, the feed must not uncontrollably speed up once the drill breaks through the material. One good way of solving the problem is to use a pneumatic cylinder for the feed, which is able to provide force during drilling and a rapid approach before the actual drilling phase. Feed during the drilling phase is controlled using a hydraulic brake cylinder (HYDROCHECK) fitted in parallel with the pneumatic cylinder. This provides even, slow and safe feed movement, without the risk of the uncontrolled feed described above.

Note: All air motors can be operated oil-free without special adaptation with only a 20% reduction of power.

Operating information

Working pressure:	Max 7 bar
Working temperature:	-30°C to +100°C
Medium: (unlubricated for grinding motor P1V-S009)	40 µm filtered oil mist

For more information see www.parker.com/euro_pneumatic