

Stainless Steel Air Motors P1V-S

An ideal choice for the food grade applications, and in all other ATEX applications where there is a risk of corrosion.



Designed for demanding applications and available in a wide variety of speeds and output torques. The all round, dirt-trap free design, stainless steel construction and FKM (DIN ISO 16299) external seals makes them the ideal choice for the Food Industry, where washdown with aggressive cleaning agents is common.

- Power from 0,02 kW to 1,2 kW
- ATEX CE Ex approved from 0,12 kW to 1,2 kW
- Keyed or threaded shaft
- No-lube intermittent operation as standard
- 0,2 kW, 0,3 and 1.2 kW Brakemotors for higher safety
- 0,28, 0,57 and 0.86 kW high torque series

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



Operating information

Working pressure : Max 6 bar in Ex area
 Working temperature : -20° to +40°C in Ex area
 Fluid: Compressed air with ISO 8573-1 Quality class 3.4.3 (no-lube operation) and 3.-.5 (lube operation)

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%

For details, see technical catalogue on web site :
www.parker.com/euro_pneumatic

CE Ex II 2GD c IIC T6 (80 °C) X

CE Ex II 2GD c IIC T5 (95 °C) X

Keyed shaft, P1V-S012A series, 120 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
0,12	22000	11000	0,10	0,15	5,0	G1/8	6	P1V-S012A0N00
0,12	5500	2750	0,40	0,60	5,0	G1/8	6	P1V-S012A0550
0,12	3600	1800	0,60	0,90	5,0	G1/8	6	P1V-S012A0360
0,12	1400	700	1,60	2,40	5,0	G1/8	6	P1V-S012A0140
0,12	900	450	2,50	3,80	5,0	G1/8	6	P1V-S012A0090
0,12	600	300	3,80	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	0,40	0,60	5,0	G1/8	6	P1V-S012D0550
0,12	3600	1800	0,60	0,90	5,0	G1/8	6	P1V-S012D0360
0,12	1400	700	1,60	2,40	5,0	G1/8	6	P1V-S012D0140
0,12	900	450	2,50	3,80	5,0	G1/8	6	P1V-S012D0090
0,12	600	300	3,80	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	6,2	G1/8	10	P1V-S020A0E50
0,20	4600	2300	0,80	1,20	6,2	G1/8	10	P1V-S020A0460
0,20	2400	1200	1,60	2,40	6,2	G1/8	10	P1V-S020A0240
0,20	1400	700	2,70	4,10	6,2	G1/8	10	P1V-S020A0140
0,20	700	350	5,40	8,20	6,2	G1/8	10	P1V-S020A0070
0,20	320	160	12,00	18,00	6,2	G1/8	10	P1V-S020A0032
0,10	180	90	10,50	15,00	4,5	G1/8	10	P1V-S020A0018
0,18	50	25	20,00*	20,00*	6,2	G1/8	10	P1V-S020A0005
0,18	20	-	20,00*	20,00*	6,2	G1/8	10	P1V-S020A0002
0,18	10	-	20,00*	20,00*	6,2	G1/8	10	P1V-S020A0001
0,18	5	-	20,00*	20,00*	6,2	G1/8	10	P1V-S020A00005

* Max allowed torque

Reversible air motors

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

CE II2GD cIIIC 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	6,2	G1/8	10	P1V-S020D0E50
0,20	4600	2300	0,80	1,20	6,2	G1/8	10	P1V-S020D0460
0,20	2400	1200	1,60	2,40	6,2	G1/8	10	P1V-S020D0240
0,20	1400	700	2,70	4,10	6,2	G1/8	10	P1V-S020D0140
0,20	700	350	5,40	8,20	6,2	G1/8	10	P1V-S020D0070
0,20	320	160	12,00	18,00	6,2	G1/8	10	P1V-S020D0032
0,10	180	90	10,50	15,00	4,5	G1/8	10	P1V-S020D0018
0,18	50	25	20,00*	20,00*	6,2	G1/8	10	P1V-S020D0005

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

CE II2GD cIIIC T6 (80 °C) X

0,30	14500	7250	0,40	0,60	7,8	G1/4	10	P1V-S030A0E50
0,30	4600	2300	1,20	1,90	7,8	G1/4	10	P1V-S030A0460
0,30	2400	1200	2,40	3,60	7,8	G1/4	10	P1V-S030A0240
0,30	1400	700	4,10	6,10	7,8	G1/4	10	P1V-S030A0140
0,30	600	300	9,60	14,30	7,8	G1/4	10	P1V-S030A0060
0,30	340	170	16,90	25,30	7,8	G1/4	10	P1V-S030A0034
0,30	230	115	24,00	36,00	7,8	G1/4	10	P1V-S030A0023
0,13	180	90	13,80	21,00	4,7	G1/8	10	P1V-S030A0018
0,30	100	50	57,00	85,50	7,8	G1/4	10	P1V-S030A0010
0,30	50	25	36,00*	36,00*	7,8	G1/4	10	P1V-S030A0005

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

CE II2GD cIIIC T6 (80 °C) X

0,30	14500	7250	0,40	0,60	7,8	G1/4	10	P1V-S030D0E50
0,30	4600	2300	1,20	1,90	7,8	G1/4	10	P1V-S030D0460
0,30	2400	1200	2,40	3,60	7,8	G1/4	10	P1V-S030D0240
0,30	1400	700	4,10	6,10	7,8	G1/4	10	P1V-S030D0140
0,30	600	300	9,60	14,30	7,8	G1/4	10	P1V-S030D0060
0,30	340	170	16,90	25,30	7,8	G1/4	10	P1V-S030D0034
0,13	180	90	13,80	21,00	4,7	G1/8	10	P1V-S030D0018
0,30	50	25	36,00*	36,00*	7,8	G1/4	10	P1V-S030D0005

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

CE II2GD cIIIC T6 (80 °C) X

0,60	14000	7000	0,82	1,23	14,2	G3/8	12	P1V-S060A0E00
0,60	3500	1750	3,20	4,80	14,2	G3/8	12	P1V-S060A0350
0,60	2700	1350	4,20	6,40	14,2	G3/8	12	P1V-S060A0270
0,60	1700	850	6,70	10,10	14,2	G3/8	12	P1V-S060A0170
0,60	630	315	18,00	27,00	14,2	G3/8	12	P1V-S060A0063
0,60	480	240	23,90	36,00	14,2	G3/8	12	P1V-S060A0048
0,60	300	150	38,20	57,00	14,2	G3/8	12	P1V-S060A0030
0,30	150	75	38,00	57,00	14,2	G3/8	12	P1V-S060A0015

Keyed shaft, P1V-S090A series, 900 watt - (G3/8)

CE II2GD cIIIC T6 (80 °C) X

0,90	12000	6000	1,40	2,10	23,3	G1/2	12	P1V-S090A0C00
0,90	3500	1750	4,90	7,30	23,3	G1/2	12	P1V-S090A0350
0,90	2700	1350	6,30	9,50	23,3	G1/2	12	P1V-S090A0270
0,90	1700	850	10,10	15,20	23,3	G1/2	12	P1V-S090A0170
0,90	630	315	27,00	40,00	23,3	G1/2	12	P1V-S090A0063
0,90	480	240	35,00	53,00	23,3	G1/2	12	P1V-S090A0048
0,90	300	150	57,00	85,00	23,3	G1/2	12	P1V-S090A0030

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

CE II2GD cIIIC T5 (95 °C) X

1,20	9000	4500	2,50	3,80	26,7	G3/4	19	P1V-S120A0900
1,20	2500	1250	8,20	13,70	26,7	G3/4	19	P1V-S120A0250
1,20	1100	550	21,00	31,00	26,7	G3/4	19	P1V-S120A0110
1,20	700	350	33,00	49,00	26,7	G3/4	19	P1V-S120A0070
1,20	320	160	71,00	107,00	26,7	G3/4	19	P1V-S120A0032
1,20	200	100	66,90	100,00	19,0	G3/4	19	P1V-S120A0020

* Max permitted torque to not damage the gearbox

ATEX Robust air motors - P1V-S

The high torque motors of the P1V-S type are small in size but provide extremely high output. Our high torque motors are also less apt to stall. These drive solutions are Particularly suitable for use in industrial agitators and mixers as used in the paint industry, food industry or pharmaceutical industry.



- Power 0.28, 0.57 and 0.86 kW
- Designed for arduous applications
- No-lube intermittent operation as standard

CE Ex II 2 GD c IIC T6 (80°C) X

Operating information

Working pressure	Max 6 bar in Ex area
Working temperature	-20° to +40°C in Ex area
Fluid	Compressed air with ISO 8573-1 Quality class 3.4.3 (no-lube operation) and 3.-5 (lube operation)

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%

For details, see technical catalogue on web site : www.parker.com/euro_pneumatic

Keyed shaft, P1V-S028A series, 285 watt - (G3/8)

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	
0,285	170	85	32	47	7,8	G3/8	10	2,700	P1V-S028A0017
0,285	80	40	62	92	7,8	G3/8	10	2,600	P1V-S028A0008
0,285	50	25	110	162	7,8	G3/8	10	2,900	P1V-S028A0005
0,280	26	13	210	320	7,8	G3/8	10	3,500	P1V-S028A0003
0,280	14	7	410	615	7,8	G3/8	10	3,500	P1V-S028A0002

Keyed shaft, P1V-S057A series, 570 watt - (G1/2)

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	
0,570	150	75	72	108	14,2	G1/2	10	3,600	P1V-S057A0015
0,570	110	55	98	147	14,2	G1/2	10	3,600	P1V-S057A0011
0,570	74	37	150	225	14,2	G1/2	10	3,600	P1V-S057A0007
0,565	40	20	265	400	14,2	G1/2	10	4,400	P1V-S057A0004

Keyed shaft, P1V-S086A series, 860 watt - (G1/2)

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	
0,860	150	75	160	110	23,3	G1/2	10	3,800	P1V-S086A0015
0,860	110	55	220	150	23,3	G1/2	10	3,900	P1V-S086A0011
0,860	70	35	335	225	23,3	G1/2	10	3,900	P1V-S086A0007
0,850	40	20	600	400	23,3	G1/2	10	4,700	P1V-S086A0004

* maximum admissible speed (idling)

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

Data for reversible brake motor with keyed shaft, P1V-S020AD series, 200 watt

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	1,000	P1V-S020ADE50
0,200	4600	2300	0,80	1,20	6,2	G1/8	10	1,050	P1V-S020AD460
0,200	2400	1200	1,60	2,40	6,2	G1/8	10	1,050	P1V-S020AD240
0,200	1400	700	2,70	4,10	6,2	G1/8	10	1,150	P1V-S020AD140
0,200	700	350	5,40	8,20	6,2	G1/8	10	1,150	P1V-S020AD070
0,200	320	160	12,00	18,00	6,2	G1/8	10	1,150	P1V-S020AD032
0,100	180	90	10,50	15,00	4,5	G1/8	10	1,150	P1V-S020AD018
0,180	50	25	20,00**	20,00**	6,2	G1/8	10	1,250	P1V-S020AD005
0,180	20	–	20,00**	20,00**	6,2	G1/8	10	1,250	P1V-S020AD002
0,180	10	–	20,00**	20,00**	6,2	G1/8	10	1,350	P1V-S020AD001
0,180	5	–	20,00**	20,00**	6,2	G1/8	10	1,350	P1V-S020AD0005

Data for reversible brake motor with keyed shaft, P1V-S030AD series, 300 watt

0,300	14500	7250	0,40	0,60	8,0	G1/4	10	1,350	P1V-S030ADE50
0,300	4600	2300	1,20	1,90	8,0	G1/4	10	1,400	P1V-S030AD460
0,300	2400	1200	2,40	3,60	8,0	G1/4	10	1,400	P1V-S030AD240
0,300	1400	700	4,10	6,10	8,0	G1/4	10	1,450	P1V-S030AD140
0,300	600	300	9,60	14,30	8,0	G1/4	10	1,500	P1V-S030AD060
0,300	340	170	16,90	25,30	8,0	G1/4	10	1,500	P1V-S030AD034
0,300	230	115	24,00	36**	8,0	G1/4	10	3,650	P1V-S030AD023
0,130	180	90	13,80	21,00	4,7	G1/4	10	1,150	P1V-S030AD018
0,300	100	50	57,00	85,50	8,0	G1/4	10	3,650	P1V-S030AD010
0,280	50	25	36**	36**	8,0	G1/4	10	1,600	P1V-S030AD005


Data for reversible brake motor with keyed shaft, P1V-S120AD series, 1200 watts

1,200	9000	4500	2,50	3,80	26,7	G3/4	19	9,000	P1V-S120AD900
1,200	2500	1250	9,20	13,70	26,7	G3/4	19	9,200	P1V-S120AD250
1,200	1100	550	21,00	31,00	26,7	G3/4	19	9,200	P1V-S120AD110
1,200	700	350	33,00	49,00	26,7	G3/4	19	9,700	P1V-S120AD070
1,200	320	160	71,00	107,00	26,7	G3/4	19	9,700	P1V-S120AD032


* Max allowed torque

P1V-S Accessories

Flange

	For air motor	For drilling motor	Order code
	P1V-S002		P1V-S4002B
	P1V-S003		P1V-S4002B
	P1V-S008	P1V-S008	P1V-S4008B
	P1V-S012		P1V-S4012B
	P1V-S020	P1V-S025	P1V-S4020B
	P1V-S028 high torque		P1V-S4028B1
	P1V-S028 high torque		P1V-S4028B2
	P1V-S030	P1V-S040	P1V-S4030B
	P1V-S057 high torque		P1V-S4028B1
	P1V-S057 high torque		P1V-S4028B2
	P1V-S060	P1V-S060	P1V-S4060B
	P1V-S086 high torque		P1V-S4028B1
	P1V-S086 high torque		P1V-S4028B2
	P1V-S090		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-S028 high torque		P1V-S4028F1
	P1V-S028 high torque		P1V-S4028F2
	P1V-S030A0023		P1V-S4020C
	P1V-S030A0010		P1V-S4020C
	P1V-S030	P1V-S040	P1V-S4030F
	P1V-S057 high torque		P1V-S4028F1
	P1V-S057 high torque		P1V-S4028F2
	P1V-S060	P1V-S060	P1V-S4060F
	P1V-S086 high torque		P1V-S4028F1
	P1V-S086 high torque		P1V-S4028F2
	P1V-S090		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:	-20°C to +110°C
Medium:	40 µm filtered oil mist (unlubricated for grinding motor P1V-S009)

For more information see www.parker.com/euro_pneumatic