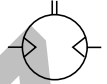


NOTE! All technical data are based on a working pressure of 6 bar and with oil. For oil-free performances are -10 to 15% lower. Speed tolerance accuracy $\pm 10\%$



II 2G Ex h IIC T4 Gb X

II 2D Ex h IIC T130°C Db X

**Robust motor reversible with keyed shaft, flange**

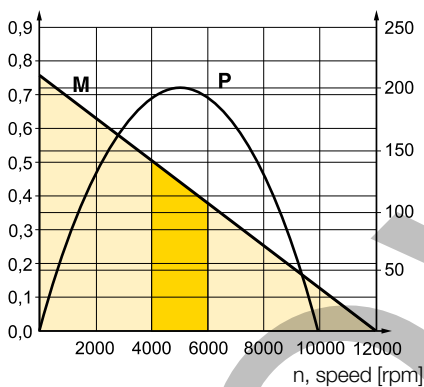
Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0,200	10 000	5 000	0,38	0,57	5	G1/8	10	1,00	P1V-M020B0A00
0,400	10 000	5 000	0,76	1,10	10	G3/8	12	1,40	P1V-M040B0A00
0,600	10 000	5 000	1,10	1,70	15	G3/8	13	1,60	P1V-M060B0A00
0,900	10 500	5 250	1,60	2,40	36,7	G1/2	13	3,10	P1V-M090B0A00
1,200	10 500	5 250	2,20	3,30	43,3	G1/2	13	3,80	P1V-M120B0A00

* maximum admissible speed (idling)

P1V-M020B0A00

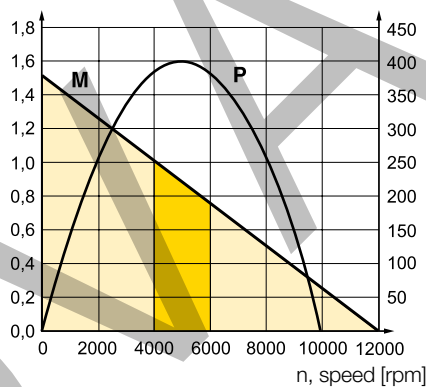
M, torque [Nm]

P, power [W]

**P1V-M040B0A00**

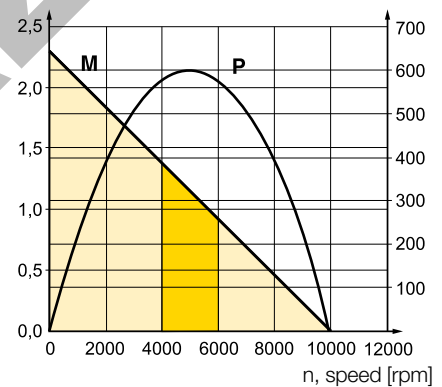
M, torque [Nm]

P, power [W]

**P1V-M060B0A00**

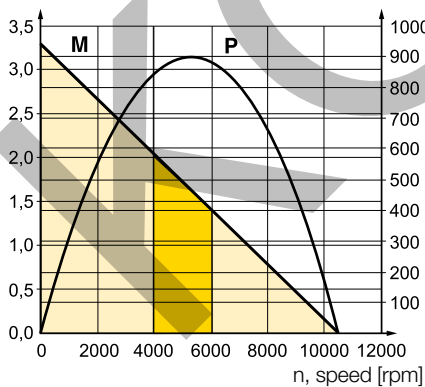
M, torque [Nm]

P, power [W]

**P1V-M090B0A00**

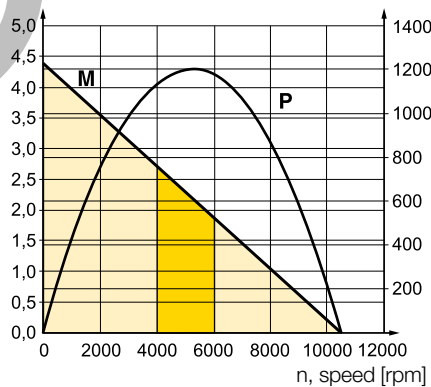
M, torque [Nm]

P, power [W]

**P1V-M120B0A00**

M, torque [Nm]

P, power [W]


 **Possible working range of motor.**
 **Optimum working range of motor.**

Higher speeds = more vane wear

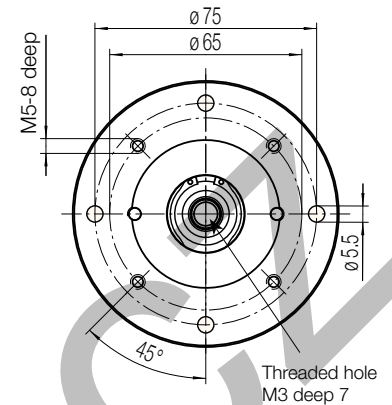
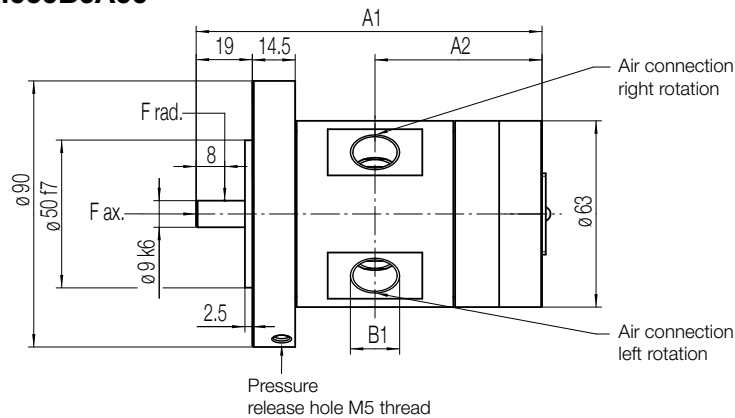
Lower speeds with high torque = more gearbox wear

Dimensions (mm)

Motor P1V-M020B0A00

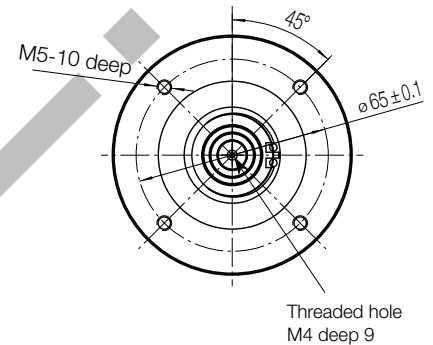
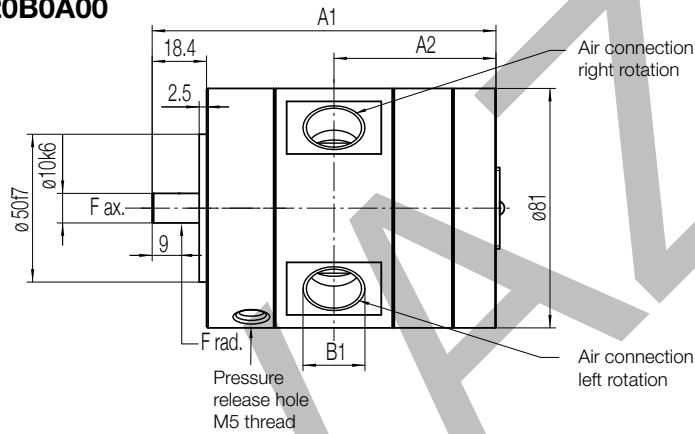
Motor P1V-M040B0A00

Motor P1V-M060B0A00

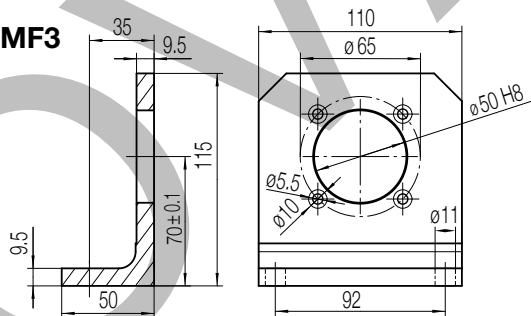


Motor P1V-M090B0A00

Motor P1V-M120B0A00



Foot bracket P1V-MF3



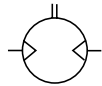
Motor type	Dimensions (mm)			Key on shaft
	A1	A2	B1	
P1V-M020B0A00	82	39	G1/8	DIN6885 A3x3x10
P1V-M040B0A00	102	49	G3/8	DIN6885 A3x3x10
P1V-M060B0A00	117	56.5	G3/8	DIN6885 A3x3x10
P1V-M090B0A00	116.3	54.8	G1/2	DIN6885 A3x3x18
P1V-M120B0A00	136.3	64.3	G1/2	DIN6885 A3x3x18

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. Speed tolerance accuracy $\pm 10\%$



II 2G Ex h IIC T4 Gb X

II 2D Ex h IIC T130°C Db X



Robust reversible motor with keyed shaft, flange

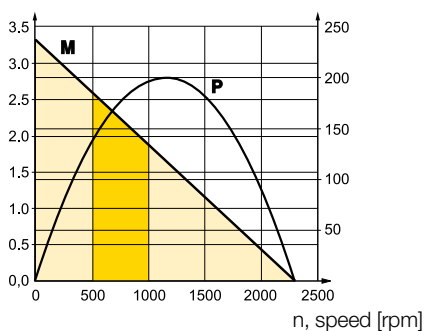
Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0,200	2 300	1 150	1,60	2,40	5	G1/8	10	2,40	P1V-M020C0230
0,200	1 460	730	2,60	3,90	5	G1/8	10	2,40	P1V-M020C0146
0,200	540	270	7,00	10,50	5	G1/8	10	2,80	P1V-M020C0054
0,200	340	170	11,20	16,80	5	G1/8	10	2,80	P1V-M020C0034
0,200	210	105	18,20	27,30	5	G1/8	10	2,80	P1V-M020C0021
0,200	120	60	31,80	47,70	5	G1/8	10	3,20	P1V-M020C0012
0,200	80	40	47,80	71,70	5	G1/8	10	3,20	P1V-M020C0008
0,200	32	16	80**	80**	5	G1/8	10	3,20	P1V-M020C0003

* maximum admissible speed (idling) / ** gear box restriction

P1V-M020C0230

M, torque [Nm]

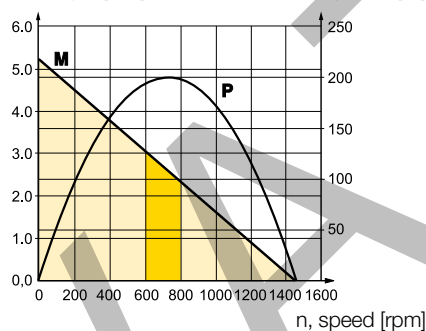
P, power [W]



P1V-M020C0146

M, torque [Nm]

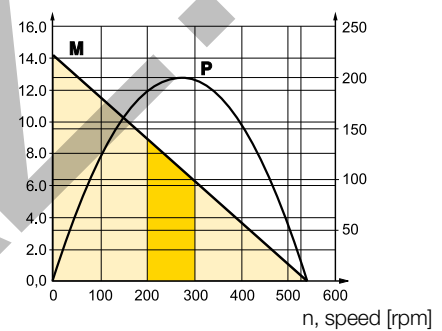
P, power [W]



P1V-M020C0054

M, torque [Nm]

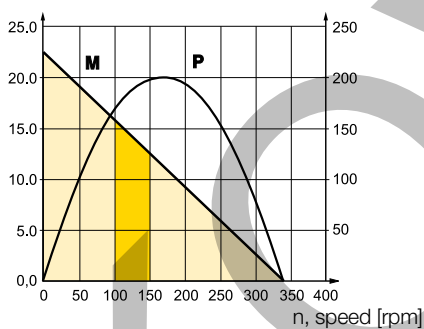
P, power [W]



P1V-M020C0034

M, torque [Nm]

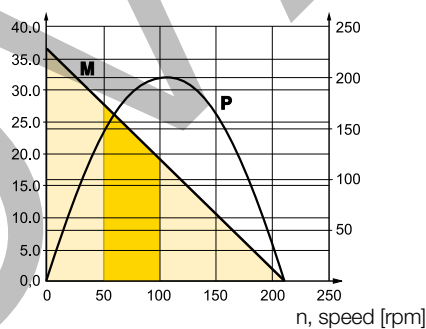
P, power [W]



P1V-M020C0021

M, torque [Nm]

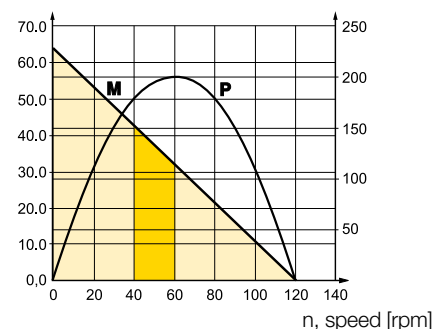
P, power [W]



P1V-M020C0012

M, torque [Nm]

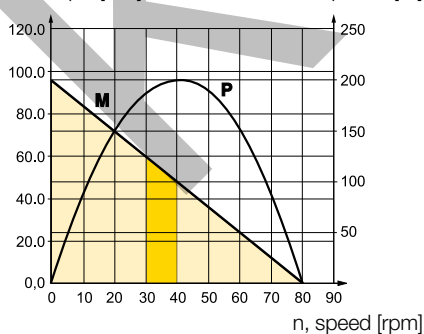
P, power [W]



P1V-M020C0008

M, torque [Nm]

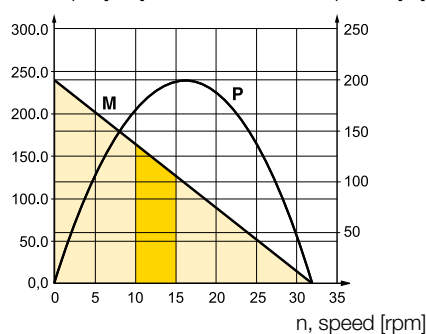
P, power [W]



P1V-M020C0003

M, torque [Nm]

P, power [W]



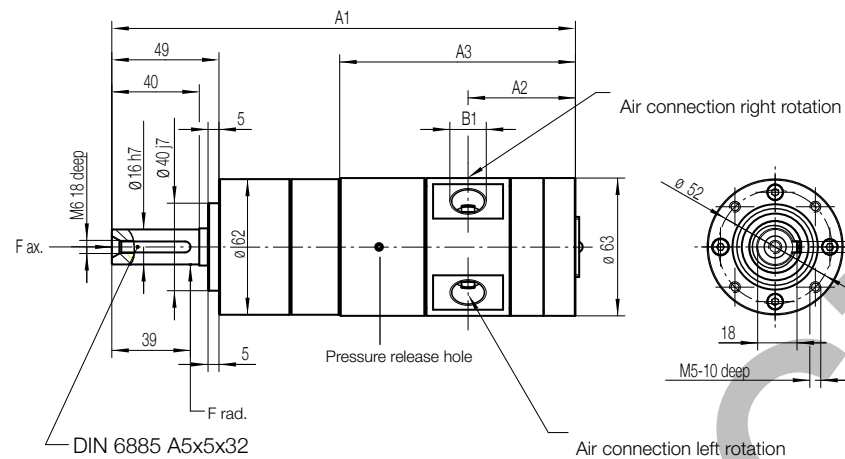
Possible working range of motor.

Optimum working range of motor.

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

Dimensions (mm)

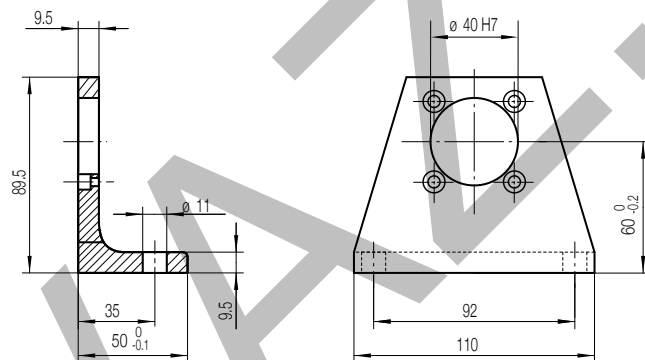
Motor P1V-M020C



Motors have 2 or 3 openings at the outside of the gearbox which must stay open in order to guarantee troublefree operation.

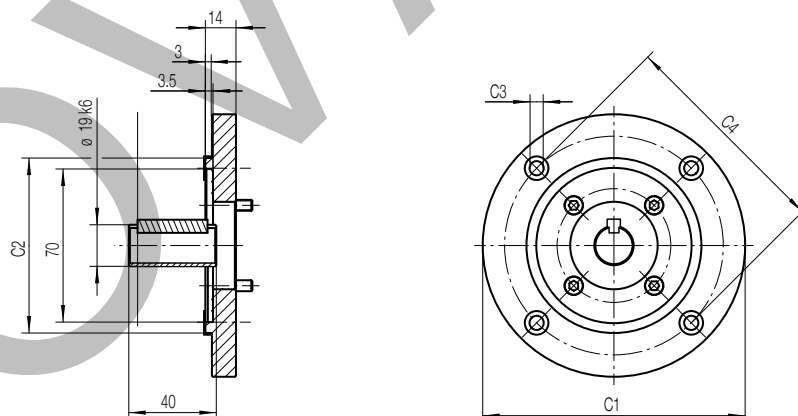
Foot bracket

P1V-MF4



Flanges

P1V-MF8, P1V-MF9



Motor size				Dimensions (mm)			
				A1	A2	A3	B1
200 watts	P1V-M020C0230	P1V-M020C0034		192.5	39	88	G1/8
	P1V-M020C0146	P1V-M020C0021	P1V-M020C0008	208.5	39	88	G1/8
	P1V-M020C0054	P1V-M020C0012	P1V-M020C0003	224	39	88	G1/8

Motor type		Dimensions (mm)			
		C1	C2	C3	C4
P1V-M020C	(IEC80 B5) P1V-MF9	200	130f7	11	165
	(IEC80 B14) P1V-MF8	120	80f7	M6	100

Permissible forces air motors with gear boxes

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

a (mm)	Radial force (N)	Axial force (N)
Motors P1V-M020C0230, P1V-M020C0146		
39	240	50
Motors P1V-M020C0054, P1V-M020C0034, P1V-M020C0021		
39	360	70
Motors P1V-M020C0012, P1V-M020C0008, P1V-M020C0003		
39	520	120

Motors P1V-M040C0230, P1V-M040C0146		
39	240	50
Motors P1V-M040C0054, P1V-M040C0034, P1V-M040C0021		
39	360	70
Motors P1V-M040C0012, P1V-M040C0008		
39	520	120

Motors P1V-M060C0230, P1V-M060C0146		
39	240	50
Motors P1V-M060C0054, P1V-M060C0034, P1V-M060C0021		
39	360	70
Motors P1V-M060C0012		
39	520	120

Motors P1V-M090C0245, P1V-M090C0156		
39	400	80
Motors P1V-M090C0058, P1V-M090C0036, P1V-M090C0023		
39	600	120
Motors P1V-M090C0013, P1V-M090C0009, P1V-M090C0004		
39	1000	200

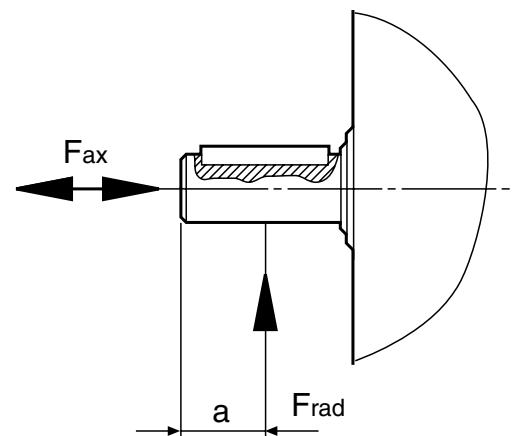
Motors P1V-M120C0245, P1V-M120C0156		
39	400	80
Motors P1V-M120C0058, P1V-M120C0036, P1V-M120C0023		
39	600	120

Permissible forces air motors without gear boxes

	a (mm)	Radial force (N)	Axial force (N)
P1V-M020B	8	145	0
P1V-M040B	8	145	0
P1V-M060B	8	145	0
P1V-M090B	9	145	0
P1V-M120B	9	145	0

F_{rad} = Radial loading (N)

F_{ax} = Axial loading (N)



Loads on output shaft for basic motor with shaft with key slot.

Order key

P1V-M **020** **B** **0** **A00**

Motor size	
020	200 W
040	400 W
060	600 W
090	900 W
120	1200 W

Function	
B	Basic motor without gearbox, keyed shaft
C	With planetary gear, keyed shaft

Optional function	
0	Standard vanes
Z	Spring loaded vanes

Air motor range	
P1V-M	Robust Air Motor

Free speed (rpm)									
P1V-M020	10000	2300	1460	540	340	210	120	80	32
P1V-M040	10000	2300	1460	540	340	210	120	80	
P1V-M060	10000	2300	1460	540	340	210	120		
P1V-M090	10500	2450	1560	580	360	230	134	90	
P1V-M120	10500	2450	1560	580	360	230			

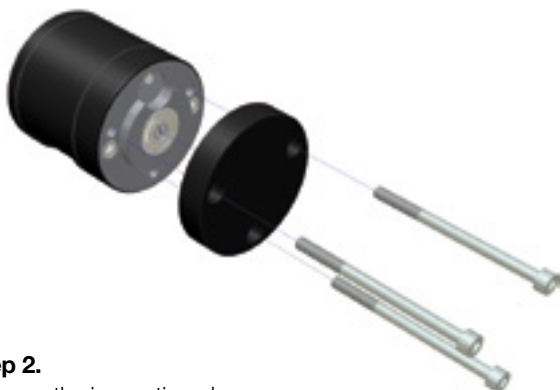
Note : This model code can not be used for creating new part numbers. All possible combinations between motor size, function and free speed are in all previous pages except for optional function.

Service – Easier - Faster - Cheaper

Replacing vanes - step by step.

Step 1.

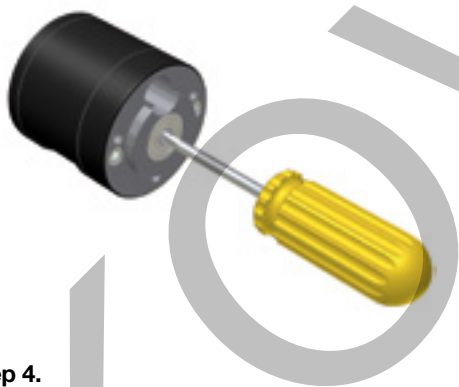
Remove the rear piece.

**Step 2.**

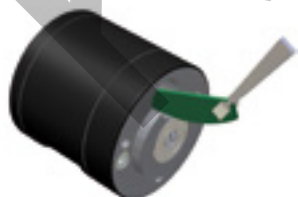
Remove the inspection plug.

**Step 3.**

Use a screwdriver to rotate the motor until you can see a vane in the centre of the inspection hole.

**Step 4.**

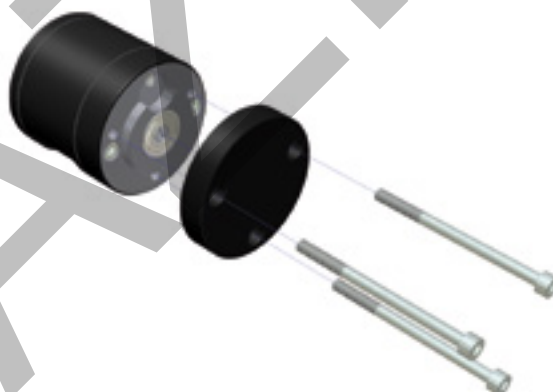
Remove the old vane and replace it with a new one.

**Repeat steps 3 and 4 until all the vanes have been replaced.****Step 5.**

Replace the inspection plug.

**Step 6.**

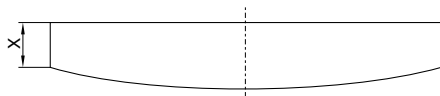
Replace the rear piece.

**Replacing vanes with motor still fitted to the machine**

The P1V-M motor has been developed to allow the vanes to be replaced without the need to remove the motor from the machine. This makes vane replacement easier, quicker and cheaper, while minimising stoppages.

Lubrication and service life

The first service is due after approximately 500 hours of operation. After the first service, the service interval is determined by the degree of vane wear*. The table below shows new dimensions and the minimum dimensions of worn vanes.



Air motors	Dimensions on new vanes X [mm]	Minimum dimensions on vane X [mm]
P1V-M020	8,5	6,5
P1V-M040	7,0	5,0
P1V-M060	8,0	6,0
P1V-M090	X	X
P1V-M120	X	X

Spare parts

For motor with Z optional function, please consult factory

Spare parts Order Code		
Motor	Air Motor (1)	Gear Box (2)
P1V-M020C0230	P1V-M/202193A	P1V-M/202202B
P1V-M020C0146	P1V-M/202193A	P1V-M/202202D
P1V-M020C0054	P1V-M/202193A	P1V-M/202202G
P1V-M020C0034	P1V-M/202193B	P1V-M/202202C
P1V-M020C0021	P1V-M/202193B	P1V-M/202202E
P1V-M020C0012	P1V-M/202193B	P1V-M/202202F
P1V-M020C0008	P1V-M/202193B	P1V-M/202202H
P1V-M020C0003	P1V-M/202193B	P1V-M/202202I
Motor	Air Motor (1)	Gear Box (2)
P1V-M040C0230	P1V-M/202194A	P1V-M/202202B
P1V-M040C0146	P1V-M/202194A	P1V-M/202202D
P1V-M040C0054	P1V-M/202194A	P1V-M/202202G
P1V-M040C0034	P1V-M/202194B	P1V-M/202202C
P1V-M040C0021	P1V-M/202194B	P1V-M/202202E
P1V-M040C0012	P1V-M/202194B	P1V-M/202202F
P1V-M040C0008	P1V-M/202194B	P1V-M/202202H
Motor	Air Motor (1)	Gear Box (2)
P1V-M060C0230	P1V-M/202179A	P1V-M/202202B
P1V-M060C0146	P1V-M/202179A	P1V-M/202202D
P1V-M060C0054	P1V-M/202179A	P1V-M/202202G
P1V-M060C0034	P1V-M/202179B	P1V-M/202202C
P1V-M060C0021	P1V-M/202179B	P1V-M/202202E
P1V-M060C0012	P1V-M/202179B	P1V-M/202202F
Motor	Air Motor (1)	Gear Box (2)
P1V-M090C0245	P1V-M/202409A	P1V-M/807015B
P1V-M090C0156	P1V-M/202409B	P1V-M/807015C
P1V-M090C0058	P1V-M/202409A	P1V-M/807015D
P1V-M090C0036	P1V-M/202409B	P1V-M/807015E
P1V-M090C0023	P1V-M/202409B	P1V-M/807015F
P1V-M090C0013	P1V-M/202409A	P1V-M/807015G
P1V-M090C0009	P1V-M/202409B	P1V-M/807015H
P1V-M090C0004	P1V-M/202409B	P1V-M/807015I
Motor	Air Motor (1)	Gear Box (2)
P1V-M120C0245	P1V-M/202457A	P1V-M/807015B
P1V-M120C0156	P1V-M/202457B	P1V-M/807015C
P1V-M120C0058	P1V-M/202457A	P1V-M/807015D
P1V-M120C0036	P1V-M/202457B	P1V-M/807015E
P1V-M120C0023	P1V-M/202457B	P1V-M/807015F

Service kits

The following kits are available for the basic motors, consisting of vanes.



Service kits, vanes for intermittent lubrication operation, option "0"

For motors	Order code
P1V-M020	P1V-6/4462971A
P1V-M040	P1V-6/4462981A
P1V-M060	P1V-6/4462991A
P1V-M090	P1V-6/4449171A
P1V-M120	P1V-6/4449181A

The following kits are available for the basic motors, consisting of vanes and springs.



Service kits, vanes for intermittent lubrication operation, option "Z"

For motors	Order code
P1V-M020	P1V-6/4449144B
P1V-M040	P1V-6/4449154B
P1V-M060	P1V-6/4449164B
P1V-M090	P1V-6/4449174B
P1V-M120	P1V-6/4449184B

* The following normal service intervals should be applied in order to guarantee problem-free operation in air motors working at load speeds. The specified hours of operation apply when the motor is running at the speed corresponding to maximum power (load speed). This is approximately half free speed. If the motor operates at higher speeds, the service interval is shorter. If the motor operates at lower speeds, the service interval is longer.

