

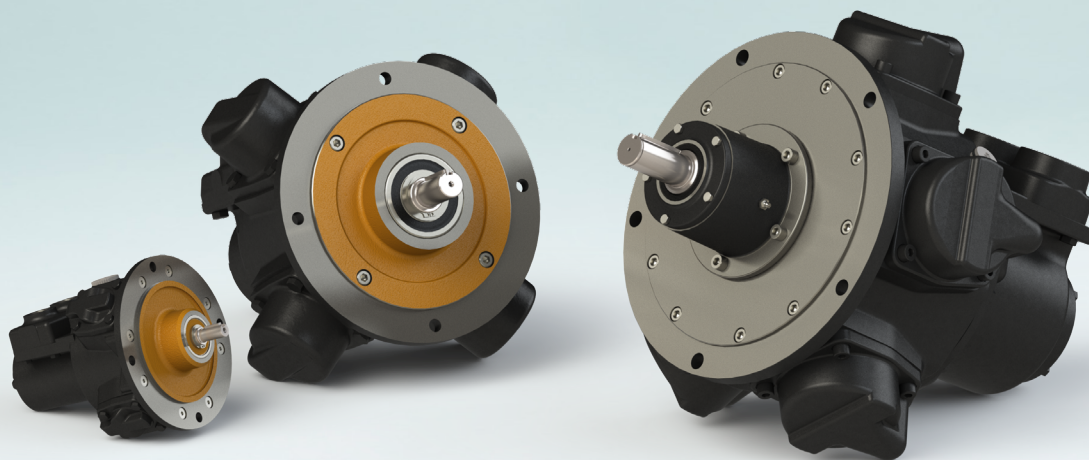


GLOBE AIRMOTORS B.V.

GLOBE Airmotors | Boerhaaveweg 9-11 | NL - 2408 AD Alphen a/d Rijn | Tel +31 172 426 608 | info@globe-benelux.nl

Specifications: RM310

Piston Air Motor



Contents

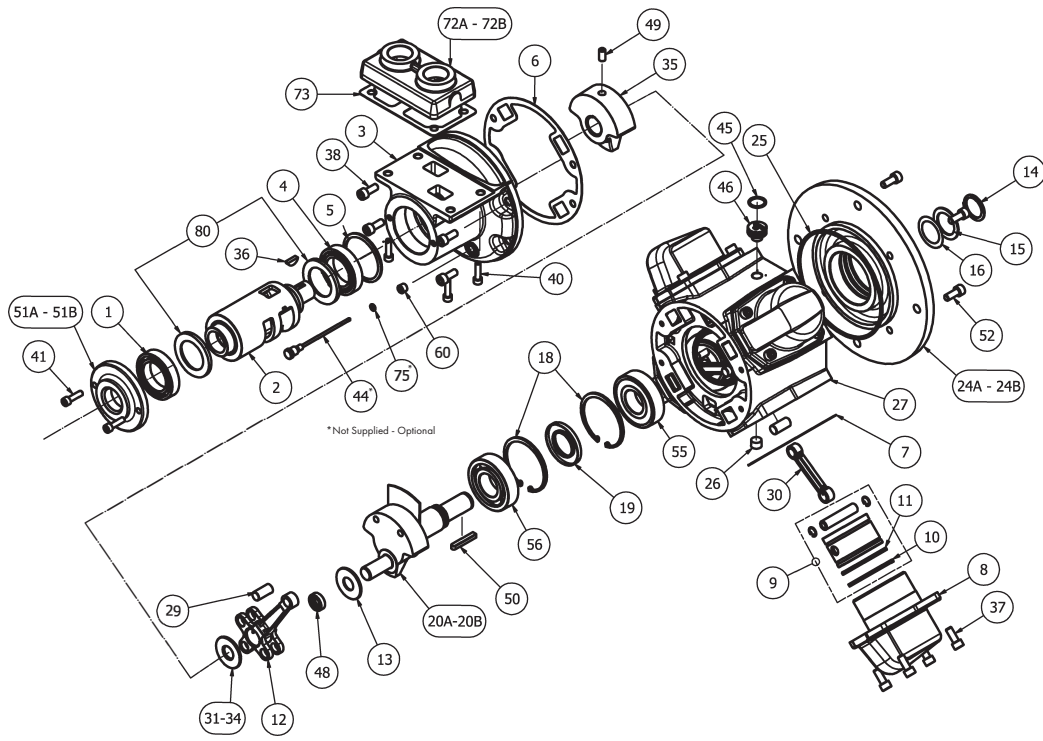
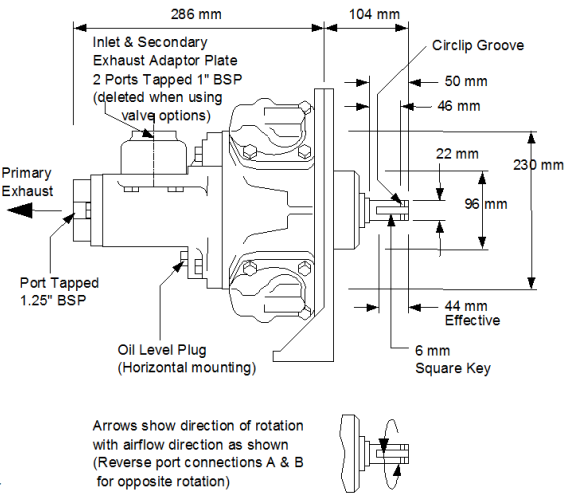
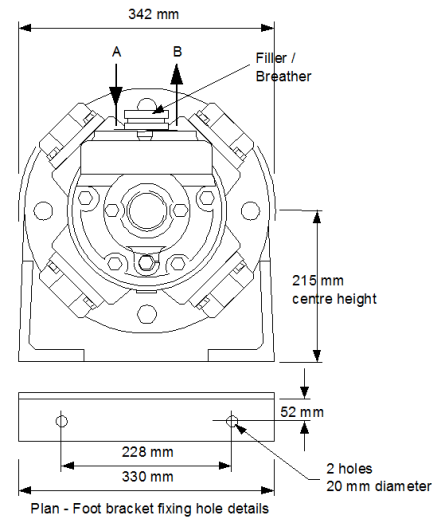
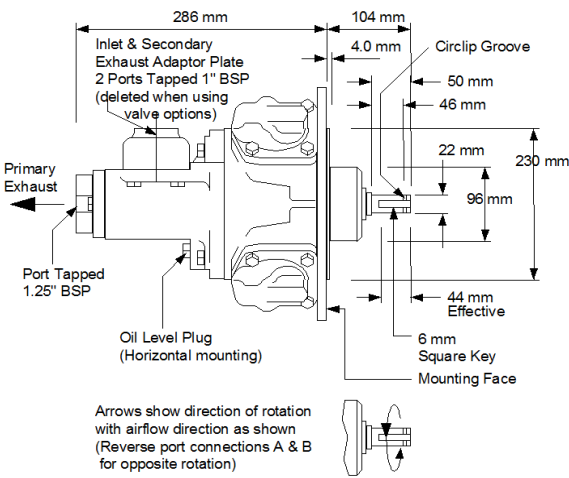
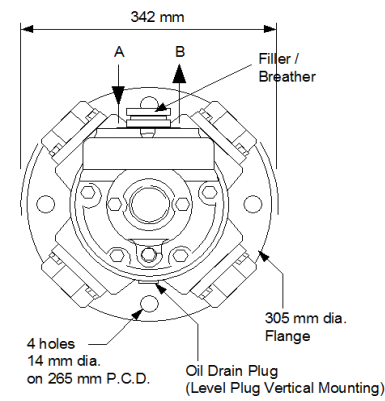
Dimensions & Spare Parts RM310	2
Dimensions & Performance RM310 + Brake	3
Dimensions RM310 + HCV/RCV	4
Dimensions & Performance RM310 + Brake + HCV/RCV	5
Spare Parts Brake, HCV, RCV	6-7



globe-airmotors.com

Dimensions RM310 & RM310 + Foot Bracket

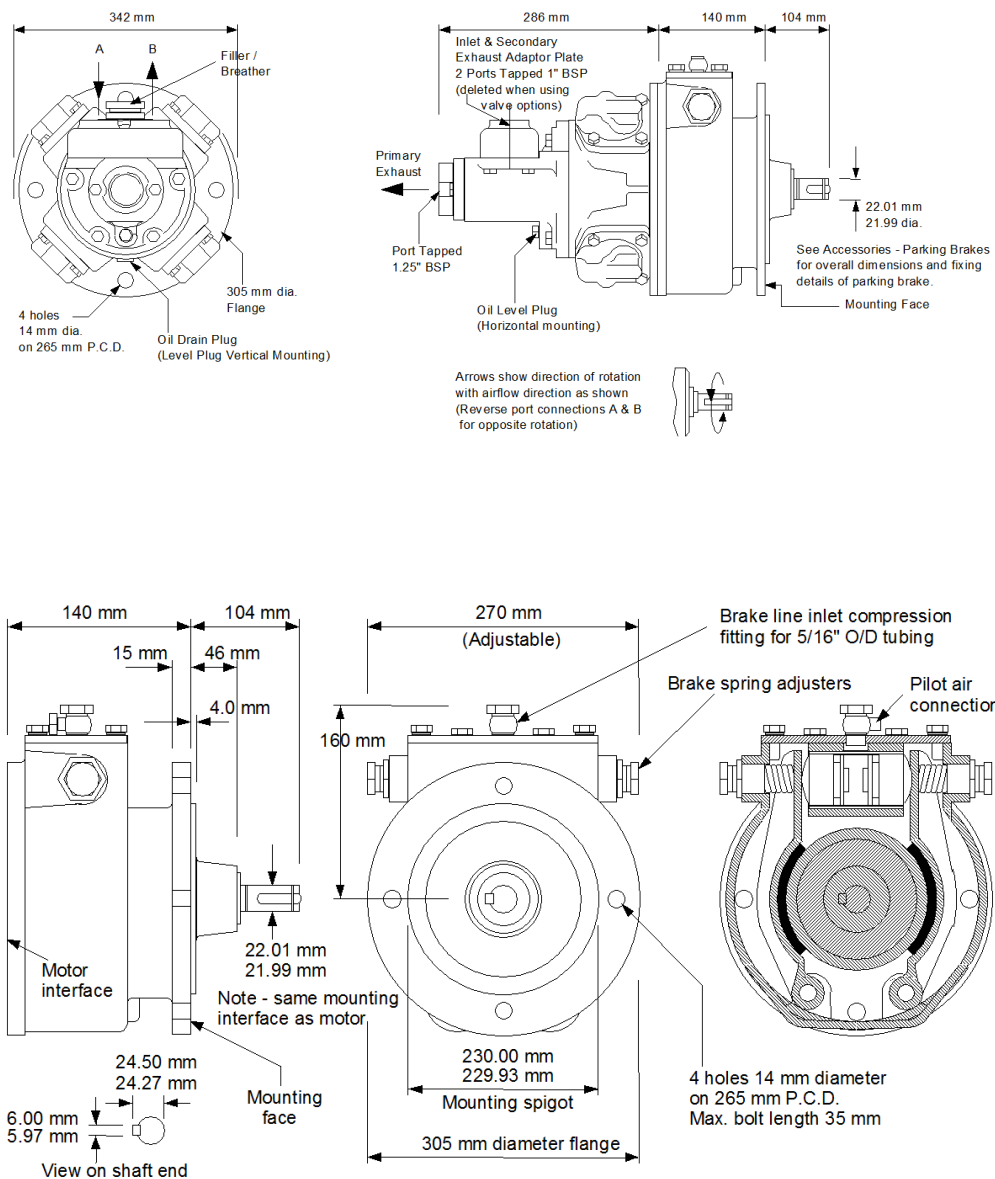
Spare Parts List RM310



Item	Part No.	Description	Qty	Kit No.	Item	Part No.	Description	Qty	Kit No.
01	807-002	Rotary Valve Bearing (Outer)	1		38	802-053	Valve Housing Bolts	4	
02	330-059	Rotary Valve	1		40	802-032	Adaptor Plate Bolt	4	
03	330-011	Rotary Valve Housing	1		41	802-032	Exhaust Cover Bolt	2	
04	807-001	Rotary Valve Bearing (Inner)	1		44	300-040	Dipstick (vertical mounting)	1	
05	804-054	Rotary Valve Bearing Circlip	1		45	808-004	Seal (transit only)	1	
06	300-001	Rotary Valve Housing Gasket	1*	339-911	46	130-066	Breather Plug	1	
07	310-030	Cylinder Gasket	4*	339-911	48	807-065	Needle Bearing	1	
08	310-082	Cylinder	4		49	815-002	Grub Screw	1	
09	330-902A	Piston Assembly	4		50	811-003	Key	1	
10	300-024	Compression Ring	4*	339-911	51A	330-005	Rotary Valve Exhaust Cover BSP	1	
11	300-022	Oil Control Ring	4*	339-911	51B	330-105	Rotary Valve Exhaust Cover NPT	1	
12	330-077	King Rod	1		52	810-002	Flange Bolt	8	
13	330-013	Crankshaft Spacer	1		55	807-009	Output Shaft Brg. (Outer)	1	
14	804-012	Crankshaft Circlip	1		56	807-009	Output Shaft Brg. (Inner)	1	
15	310-036	Crankshaft Spacer	1		60	816-063	Oil Level Plug	1	
16	310-049	Crankshaft Spacer Shim	5		72A	330-003	Inlet Adaptor Plate BSP	1	
18	804-062	Crankshaft Bearing Circlip	2		72B	230-103	Inlet Adaptor Plate NPT	1	
19	808-045	Crankshaft Oilseal	1*	339-911	73	330-004	Inlet Adaptor Plate Gasket	1*	339-911
20	330-911	Sld. Crankshaft Assembly	1		75	808-008	Dipstick Seal	1*	339-911
24	330-076	Sld. Flange Plate	1		80	330-060	Rotary Valve Spacer	2	
25	808-026	Flange Plate Seal	1*	339-911		339-911	RM310 Seal Kit	1	
26	816-071	Plug	1						
27	330-012	Engine Case	1						
29	320-081	Queen Rod Pivot	3						
30	330-078	Queen Rod	3						
31	320-052	Crank Spacer SELECT	1						
32	320-053	Crank Spacer ON	1						
33	320-054	Crank Spacer ASSEMBLY	1						
35	330-010	Balance Weight	1						
36	811-010	Woodruff Key	1						
37	802-053	Cylinder Bolts	16						

If unit is pre 1990 supplied, consult manufacturer to confirm design.

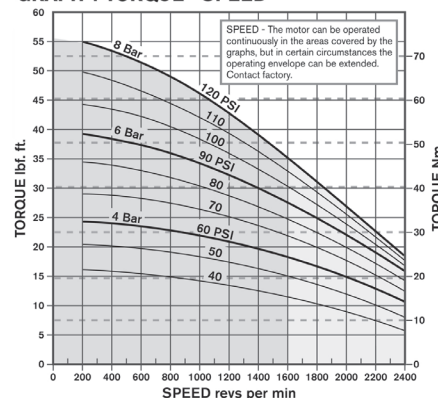
Dimensions & Performance RM310 + Brake



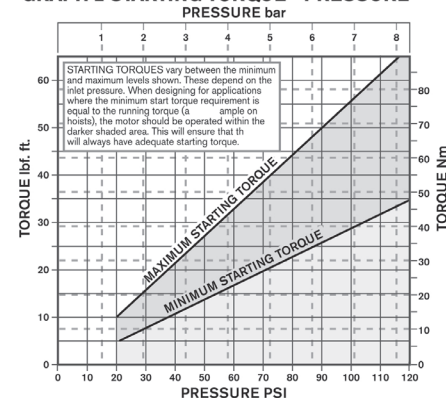
Gearbox ratio: None

Maximum speed: 2400 RPM
No Control Valve fitted

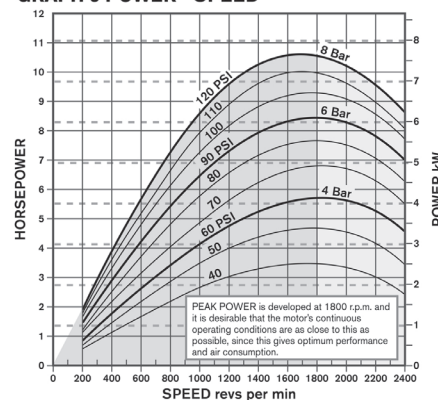
GRAPH 1 TORQUE - SPEED



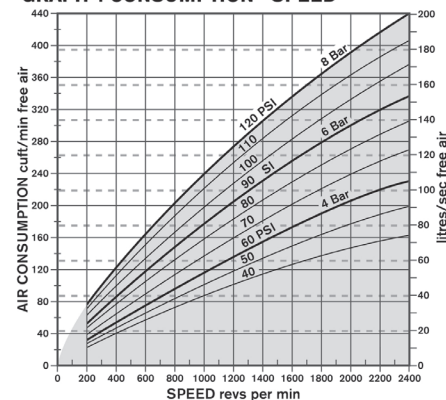
GRAPH 2 STARTING TORQUE - PRESSURE



GRAPH 3 POWER - SPEED



GRAPH 4 CONSUMPTION - SPEED



LUBRICATING OIL CAPACITIES

Horizontal 350ml Vertical 600ml
Use a good quality hydraulic oil with a viscosity of around 100cSt (460SSU) at 40°C (104°F)

AIRLINE FILTRATION AND LUBRICATION

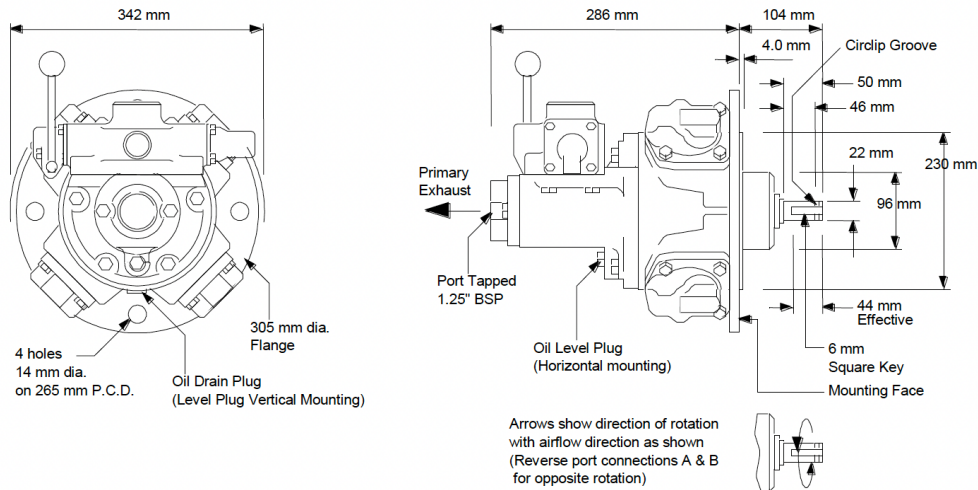
Use 64 micron filtration or better. Choose a lubricator suitable for the flow required. Prior to initial start-up, inject oil into the inlet port.

GENERAL DATA

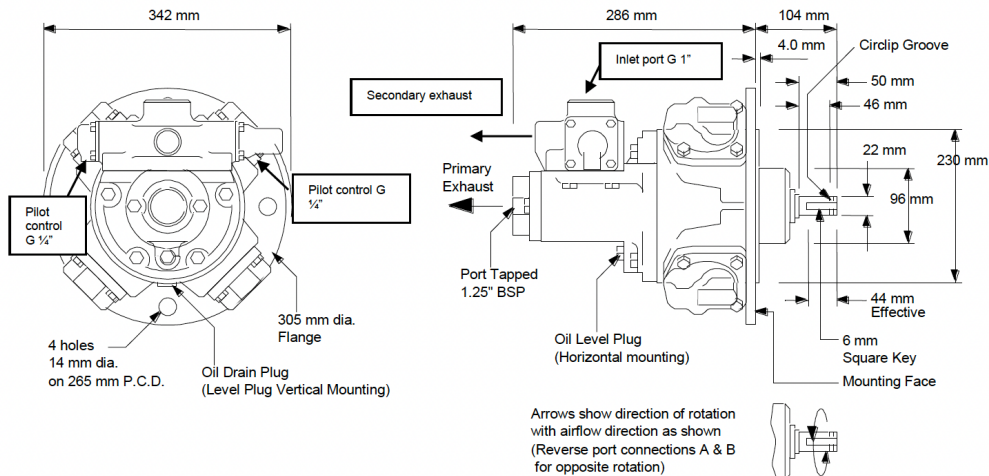
MASS (motor only) 48 kgs (106 lbs)
MOMENT OF INERTIA of rotating parts 1.8 gm² (motor only)
MAX OVERHUNG FORCE on motor shaft 1330 N (300 lbf)
TEMPERATURE RANGE -20°C to +60°C (-4°F to +140°F) / -10°C to +60°C (-14°F to +140°F) with brake

Lubricator drop rate 5-6 drops/minute continuous operation
Lubricator drop rate 10-12 drops/minute intermittent operation

Dimensions & Performance RM310 + HCV



Dimensions & Performance RM310 + RCV



Operational principle RM310 Control Valve Options

This range of bolt on valves offers very sensitive speed and directional control. One frictional matched spool and sleeve assembly is offered with two alternative means of actuation.

Configuration

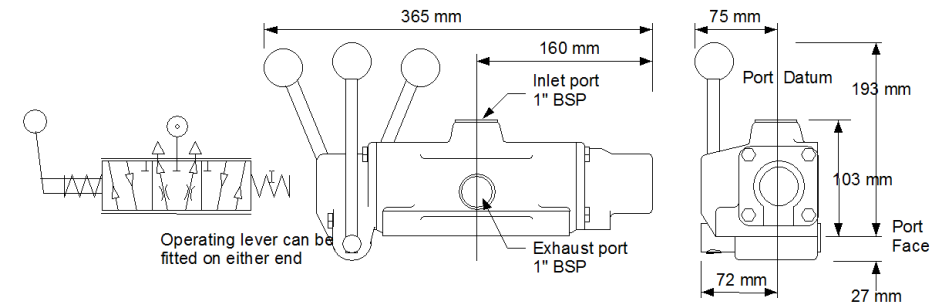
As standard these valves can be supplied with either **EQUAL POWER OR BIASED POWER** spools, the latter is suitable for hoisting applications (normal power for lifting - reduced power for lowering). The direction of reduced power must be stated when ordering **CW** or **CCW**, when viewed on the output shaft of the motor.

Hand Controlled (HCV) - The control valve spool is operated directly by a lever mechanism. Speed increase is obtained as the lever is moved in either direction from the centre (neutral) position.

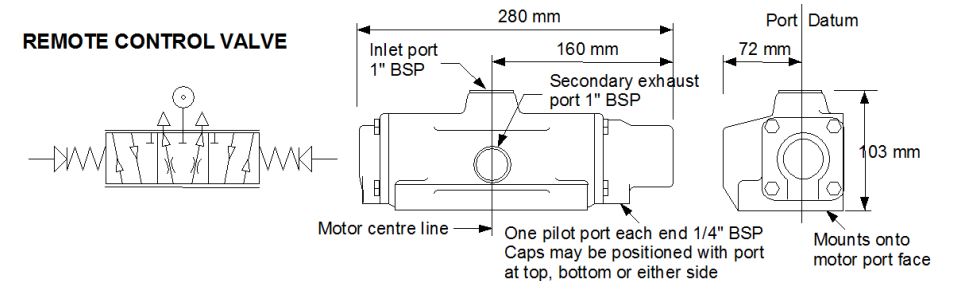
Remotely Controlled (RCV) - This option is usually controlled from a remote position by one of the PC series or LC2 remote controllers. A variable air pilot signal is applied to either end of the valve spool, depending on the required direction of motor rotation. The pilot pressure range is between 1.4 bar (20 psi) and 4.8 bar (70 psi), increased pilot pressure gives increased speed. The valve is spring centred to neutral.

Pressure Drop - Minimal pressure drop will be experienced through the valves, having the effect of maintaining the output torque whilst reducing the motor output speed by approximately 10-15% at 6 bar (90 psi) at maximum power. The starting torque remains unaffected.

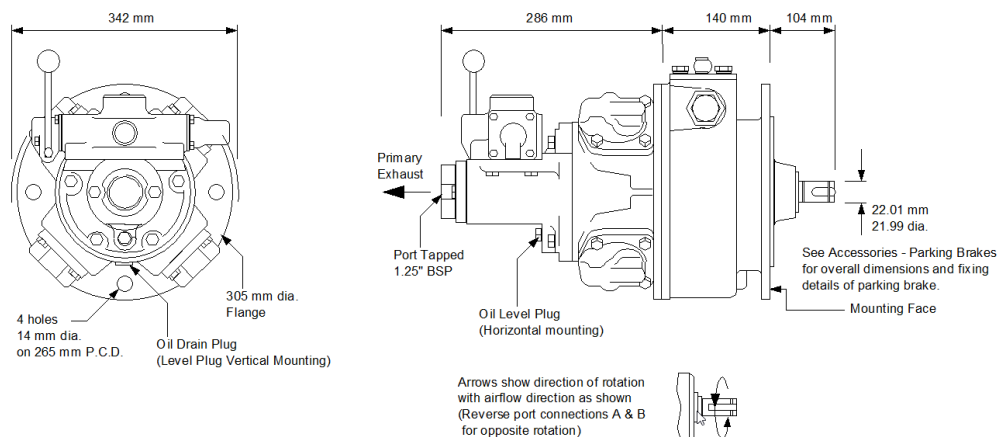
HAND CONTROL VALVE



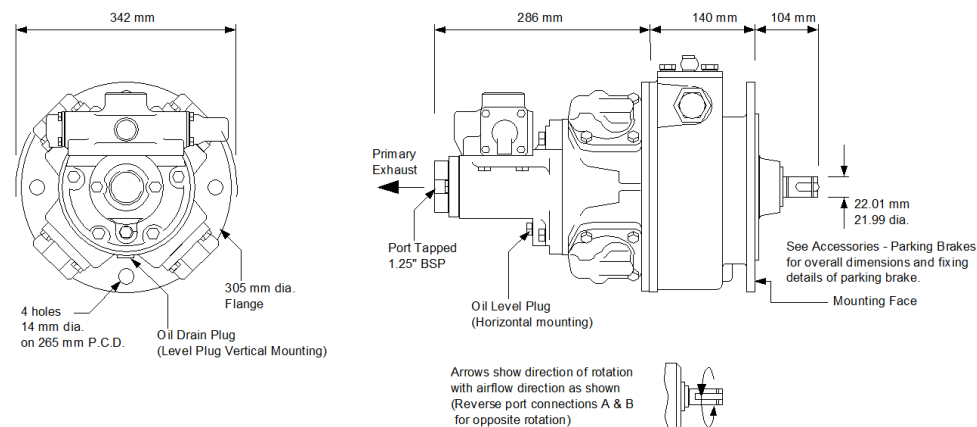
REMOTE CONTROL VALVE



Dimensions & Performance RM310 + Brake + HCV

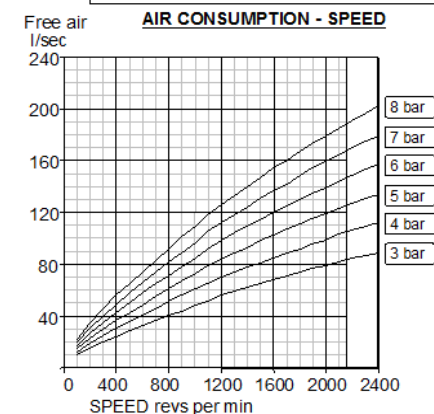
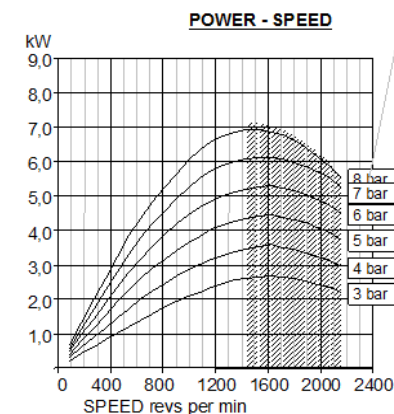
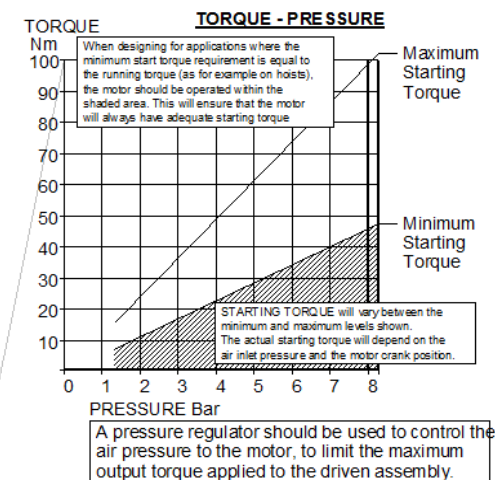
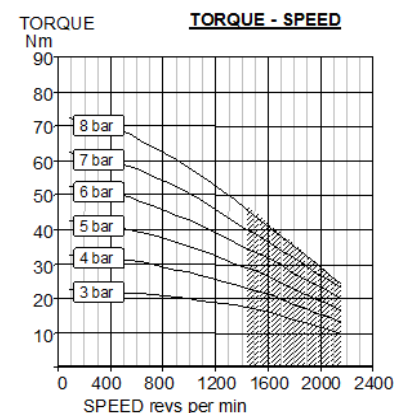


Dimensions & Performance RM310 + Brake + RCV



Gearbox ratio: None

Maximum speed: 2160 RPM
Control Valve Fitted



LUBRICATING OIL CAPACITIES

Horizontal 350ml Vertical 600ml

Use a good quality hydraulic oil with a viscosity of around 100cSt (460SSU) at 40°C (104°F)

AIRLINE FILTRATION AND LUBRICATION

Use 64 micron filtration or better. Choose a lubricator suitable for the flow required. Prior to initial start-up, inject oil into the inlet port.

Lubricator drop rate 5-6 drops/minute continuous operation

Lubricator drop rate 10-12 drops/minute intermittent operation

GENERAL DATA

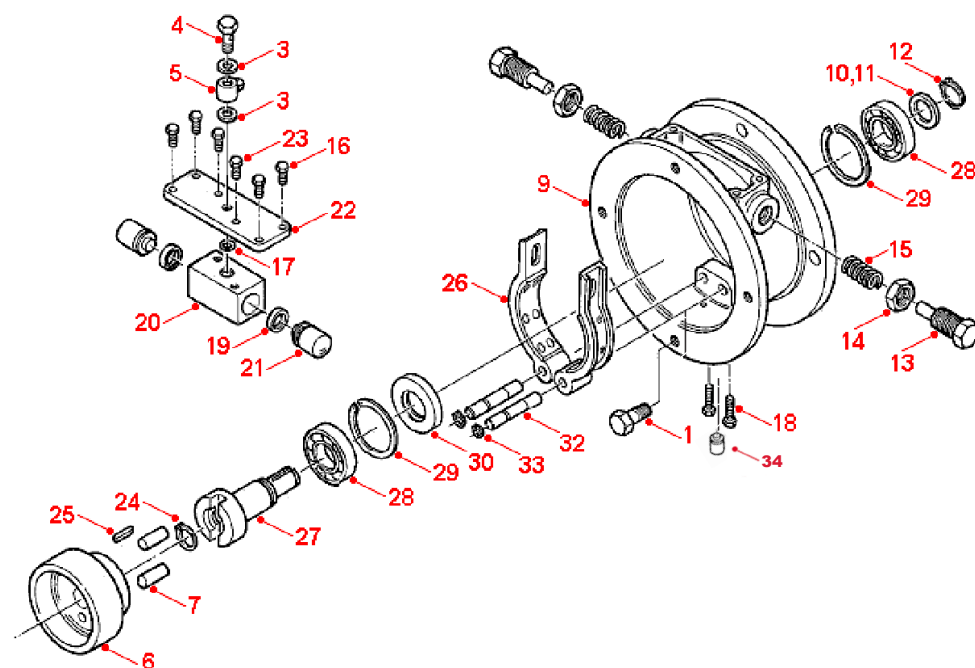
MASS (motor only) 48 kgs (106 lbs)

MOMENT OF INERTIA of rotating parts 1.8 gm² (motor only)

MAX OVERHUNG FORCE on motor shaft 1330 N (300 lbf)

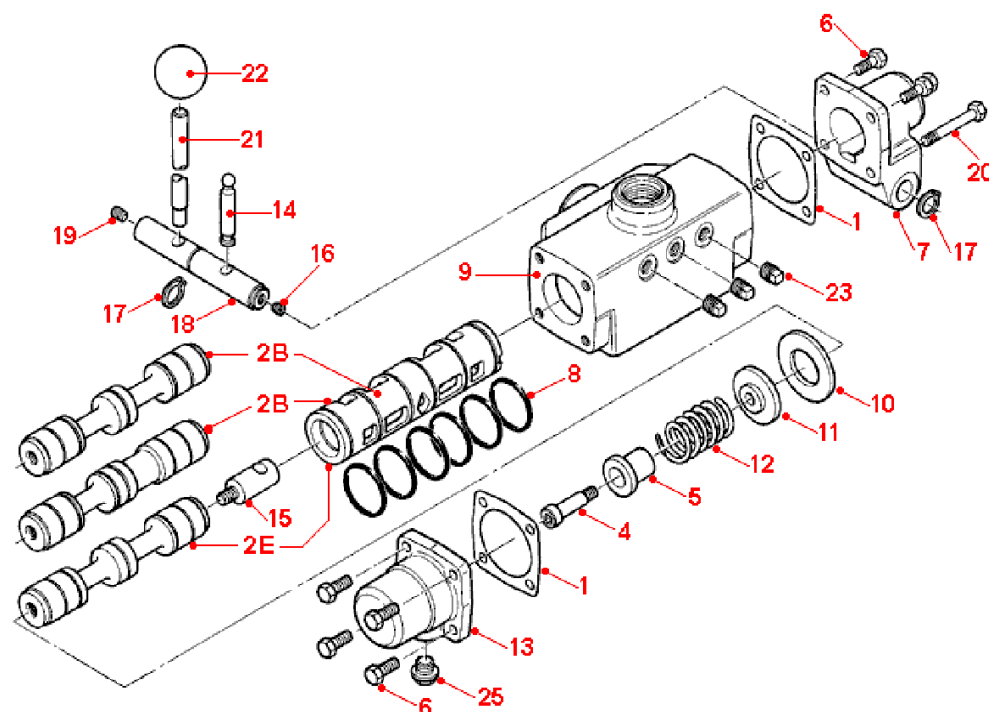
TEMPERATURE RANGE -20°C to +60°C (-4°F to +140°F) / -10°C to +60°C (-14°F to +140°F) with brake

Spare Parts List Parking Brake



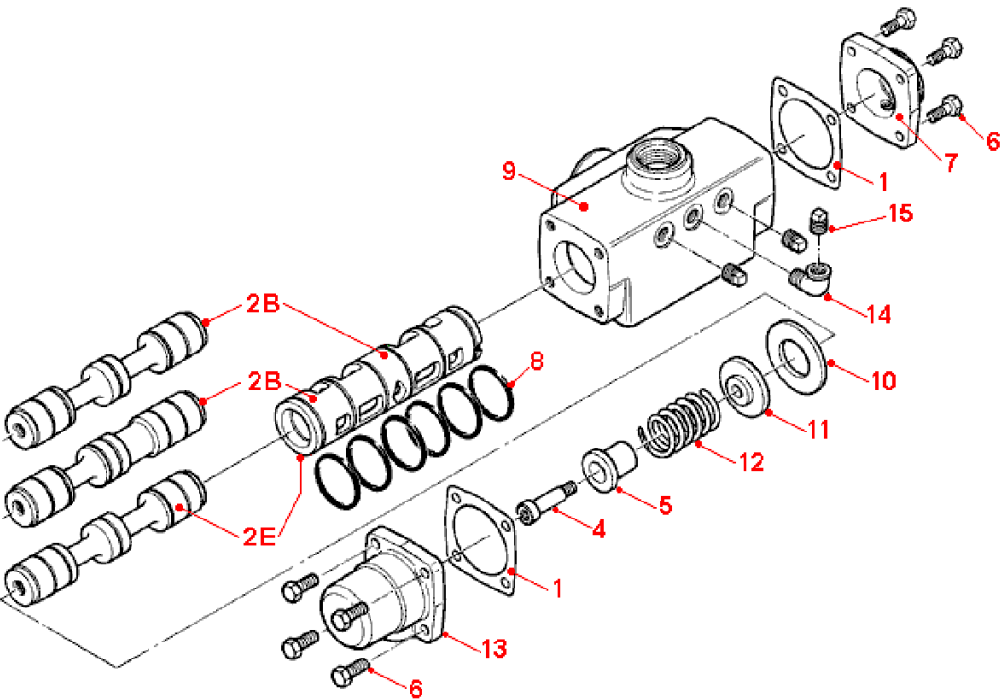
Item	Part No.	Description	Qty
01	802-073	Set Screw M12 x 30	4
03	808-090	Bonded Seal 1/4" BSP Dowty	2
04	816-004	Banjo Bolt Only 1/8 BSP	1
05	816-005	Banjo Bolt C/W/ Nut&Rin 5/16	1
06	312-001	Brake Wheel	1
07	806-002	Dowel Dia 12 x 35 Lg	2
08	811-003	Key 6 Sq.x40mm(K126)	1
09	312-008	Brake Housing	1
10	310-049	Shim - Output	5
11	310-036	Output Shaft Spacer 3.55	1
11	310-037	Output Shaft Spacer 3.80	1
11	310-038	Output Shaft Spacer 4.05	1
12	804-012	Circlip 32mm External	1
13	102-009	Brake Spring Adjuster	2
14	102-024	1/2" BSP Hex Nut	2
15	814-008	Spring 243914	2
16	802-031	Hex Head Screw M8 x 16	4
17	808-039	O Ring 9/16" x 3/4"	1
18	802-020	Hex Head Screw M6 x 20	2
19	808-073	U Packing	2
20	312-014	Piston Block	1
21	302-011	Brake Piston	2
22	312-013	Block Support Plate	1
23	802-012	Hex Head Screw M6 x 12	2
24	804-007	Circlip 22mm External	1
26	312-901	Brake Shoe Assembly	2
27	312-005	Output Shaft	1
28	807-009	Ball Bearing	2
29	804-062	Circlip 72mm Internal	2
30	808-045	Oilseal 35x72x10/R4	1
32	312-003	Brake Shoe Pivot	2
33	804-122	Circlip 1/2" External Ander	1
34	7008G18	Breather plug 1/8 BSPP (ATEX only)	1

Spare Parts List Hand Control Valve



Item	Part No.	Description	Qty
01	311-066	End Cap Gasket	2
02E	321-913	Matched Spool and Sleeve	1 (Equipower)
02B	321-914	Matched Spool and Sleeve	1 (Biased)
4	817-002	Shoulder Screw 10 mm	1
5	311-071	Centering Shaft Guide	1
6	802-032	Hex Head Screw M8 x 20	6
7	313-041	Hand Lever Cap	1
8	808-010	O Ring 1-9/16"x 1-11/16"	6
9	321-060	Valve Body	1
10	311-068	Valve Sleeve Spacer	1
11	311-072	Washer, Spring Centering	1
12	814-015	Spring 343720	1
13	311-064	End Cap - Spring End	1
14	313-026	Toggle Pin	1
15	313-024	Toggle Shaft	1
16	815-010	Grub Screw M8 x 10	1
17	804-013	Circlip 20mm External	2
18	313-008	Hand Lever Pivot	1
19	815-002	Grub Screw M8 x 16	1
20	802-045	Hex Bolt M8 x 60	2
21	313-002	Hand Lever	1
22	818-002	Black Plastic Knob 1-1/2"	1
23	816-061	Plug 1/4" BSPT Sq. Head	3
25	113-050	Vent Plug	1

Spare Parts List Remote Control Valve



Item	Part No.	Description	Qty
1	311-066	End Cap Gasket	2
2E	321-913	Matched Spool and Sleeve (Equipower)	1
2B	321-914	Matched Spool and Sleeve (Biased)	1
4	817-002	Shoulder Screw 10mm	1
5	311-071	Centering Shaft Guide	1
6	802-032	Set Screw M8 x 20	8
7	311-065	End Cap - Plain End	1
8	808-010	O-Ring 1-9/16" x 1-11/16"	6
9	321-060	Valve Body	1
10	311-068	Valve Sleeve Spacer	1
11	311-072	Washer, Spring Centering	1
12	311-073	Spring, Control Spool	1
13	311-064	End Cap - Spring End	1
14	816-048	Elbow M/F 1/4" BSPT	1
15	816-061	Plug 1/4" BSPT	3

Ordering code

Select easily with the ordering code your version and order it at our sales team. Do you have special wishes? For example ATEX Certified, different mountings, brakes etc. You name it and we make it possible. Contact us for your wishes and we will be happy to engineer a proposal to suit your requirements.

X = Motor Only Maleshaft
D = Motor + Brake
M = Motor Only Female Shaft
N = SAE 'C' Hydraulic Pump Output
V = Grease Lubricated for Shaft Upwards Operation

A = Motor with Inlet Plate
H = Hand Lever Control Valve
R = Remote Controlled Valve
X = No Valving or Adaptor Plate

OUTPUT OPTIONS

R33

X

XX

H

1

0

VALVE OPTIONS

0 = Standard Motor & Ancillaries, for Standard Mounting

NOMINAL GEARBOX RATIO

XX = No Gearbox

DESIGN CODE

RM 110 (1.7 KW / 2.4 HP) = R14
RM 210 (4 KW / 5.5 HP) = R23
RM 310 (7.5 KW / 10 HP) = R33
RM 410 (14 KW / 19 HP) = R43
RM 510 (14 KW / 31 HP) = R52
RM 610 (14 KW / 32 HP) = R62

VALVE

0 = BSP
1 = NPT
2 = Biased: CW Lowering (BSP)
3 = Biased: CCW Lowering (BSP)
4 = Biased: CW Lowering (NPT)
5 = Biased: CCW Lowering (NPT)