

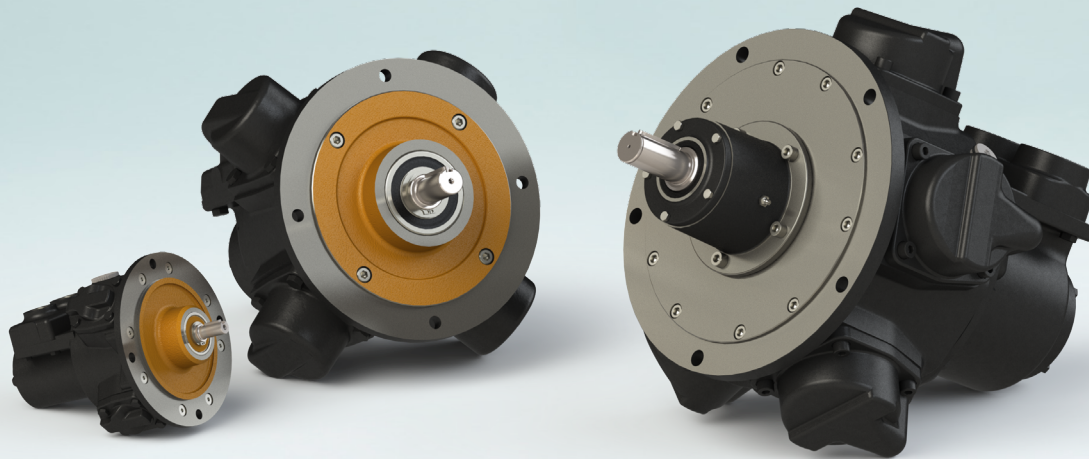


**GLOBE<sup>®</sup>** AIRMOTORS B.V.

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## Specifications: RM510

Piston Air Motor



Order your  
**PISTON MOTOR:**  
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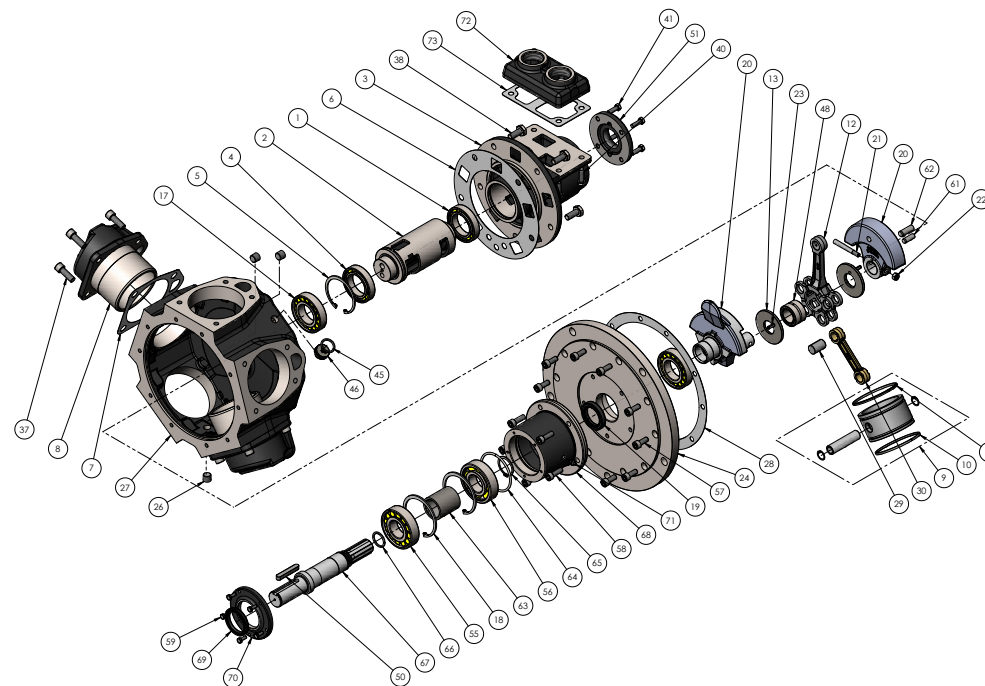
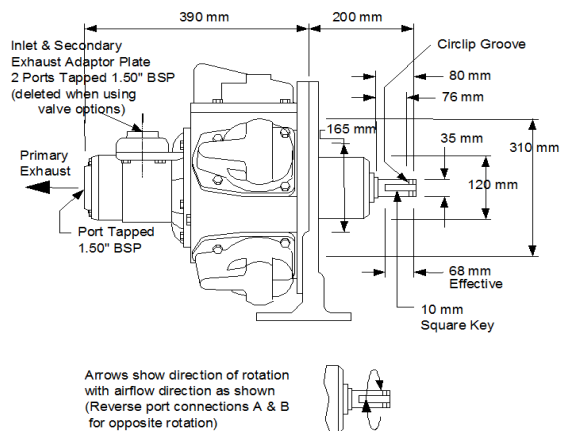
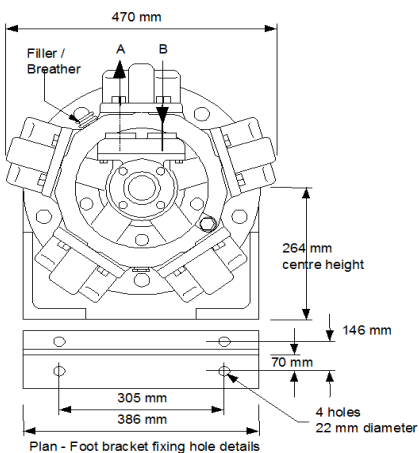
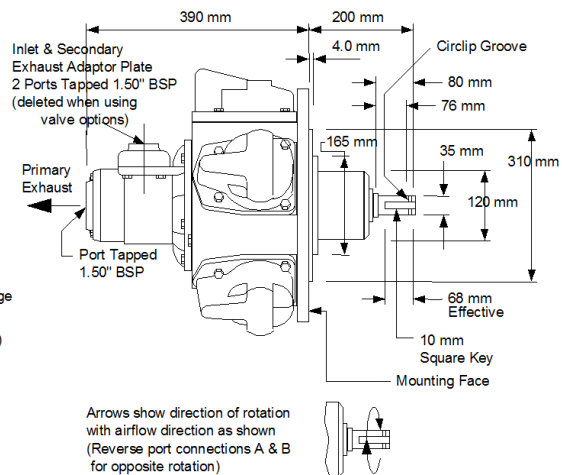
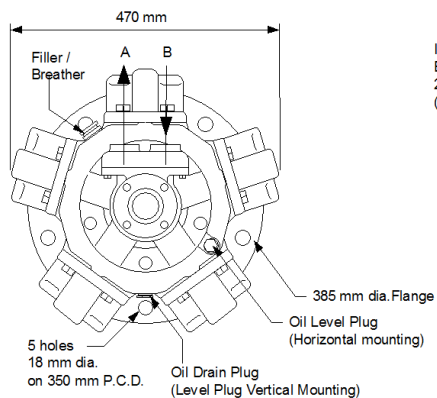
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**LRQA**  
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# Dimensions RM510 & RM510 + Foot Bracket

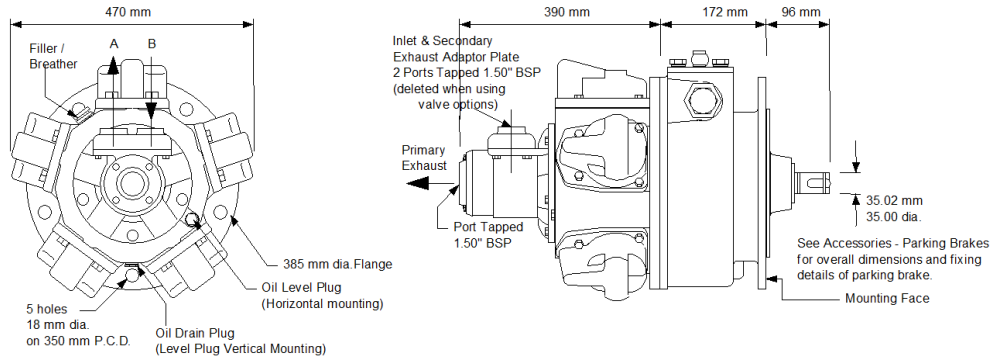
# Spare Parts List RM510



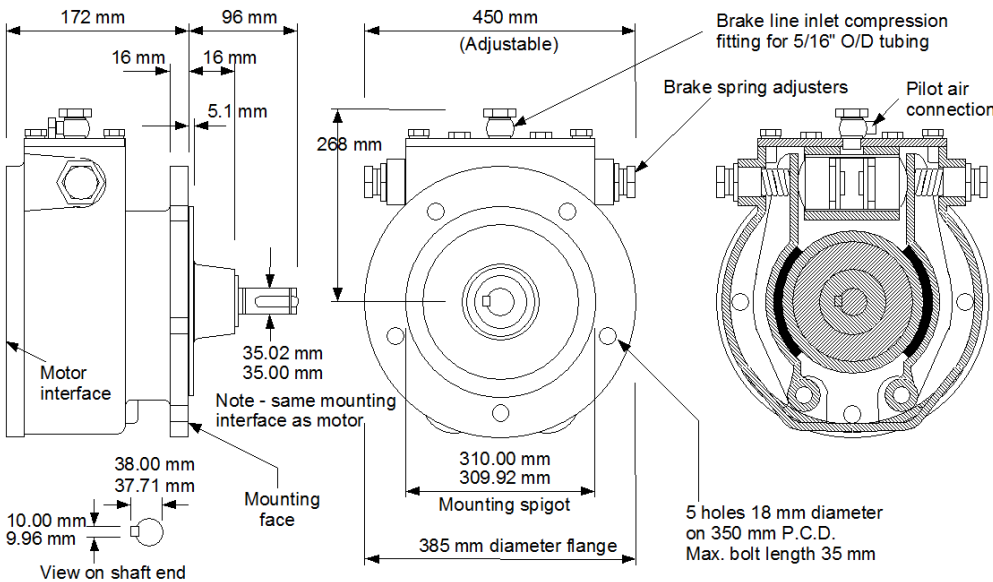
Item	Part No.	Description	Qty	Kit No.	Item	Part No.	Description	Qty	Kit No.
01	807-006	Rotary Valve Bearing (Outer)	1		45	808-004	Seal (transit only)	1	
02	520-006	Rotary Valve	1		46	130-066	Breather Plug	1	
03	520-011	Rotary Valve Housing	1		48	807-047	Needle Bearing	1	
04	807-005	Rotary Valve Bearing (Inner)	1		50	811-030	Key	1	
05	804-066	Rotary Valve Bearing Circlip	1		51A	520-005	Rotary Valve Exhaust Cover BSP	1	
06	510-001	Rotary Valve Housing Gasket	1*	529-911	51A	520-105	Rotary Valve Exhaust Cover NPT	1	
07	510-030	Cylinder Gasket	5*	529-911	55	807-063	Output Shaft Bearing (Outer)	1	
08	510-082	Cylinder	5		56	807-012	Output Shaft Bearing (Inner)	1	
09	520-902A	Piston Assembly	5		57	809-001	Flange Plate Cap Screws	10	
10	520-024	Compression Ring	5*	529-911	58	809-002	Output Housing Bolts	5	
11	520-022	Oil Control Ring	5*	529-911	59	802-016	Output Housing Cover Bolts	5	
12	530-077	King Rod	1		61	806-001	Drive Pin (Dia. 10mm)	1	
13	520-052	Crankshaft Spacer	2		62	806-002	Drive Pin (Dia. 12mm)	1	
17	807-062	Crankshaft Bearing	2		63	518-001	Output Shaft Bearing Spacer	1	
18	804-068	Crankshaft Bearing Circlip	2		64	518-004	Output Shaft Spring Ring	1	
19	808-047	Crankshaft Oilseal	1*	529-911	65	804-017	Output Shaft Circlip	1	
20A	520-901	Std. Crankshaft Assembly	1		66	804-002	Output Shaft Seal	1*	529-911
20B	520-904	SAE Crankshaft Assembly	1		67	518-003	Output Housing Cover Bolt	1	
21	510-088	Crank Bolt	1		68	518-005	Output Shaft Housing	1	
22	801-009	Crank Nut	1		69	808-042	Output Shaft Oil Seal	1*	
23	806-013	Spring Dowel	2		70	518-002	Output Shaft Housing Cover	1	
24A	520-076	Std. Flange Plate	1		71	816-015	Output Shaft Grease Nipple	1	
24B	520-113	SAE Flange Plate	1		72A	520-003	Inlet Adaptor Plate BSP	1	
26	816-071	Plug	1		72B	520-103	Inlet Adaptor Plate NPT	1	
27	520-012	Engine Case	1		73	430-004	Inlet Adaptor Plate Gasket	1*	529-911
28	510-090	Engine Case Gasket (520)	1*	529-911		529-911	RM510 Seal Kit	1	
29	520-081	Queen Rod Pivot	4						
30	520-078	Queen Rod	4						
37	802-074	Cylinder Bolts	20						
38	802-073	Valve Housing Bolts	4						
39	803-015	Washer for Item #38	4						
40	802-054	Adaptor Plate Bolt	4						
41	802-033	Exhaust Cover Bolts	4						
42	815-008	Flange Plate Plugs	5						

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

# Dimensions & Performance RM510 + Brake

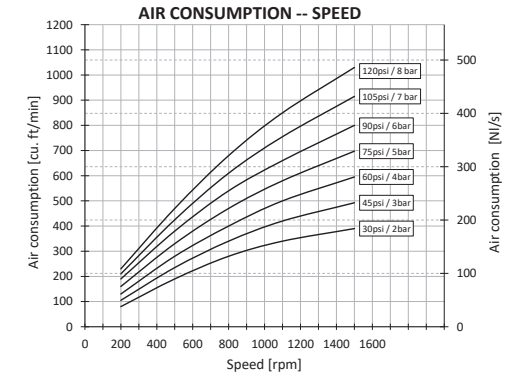
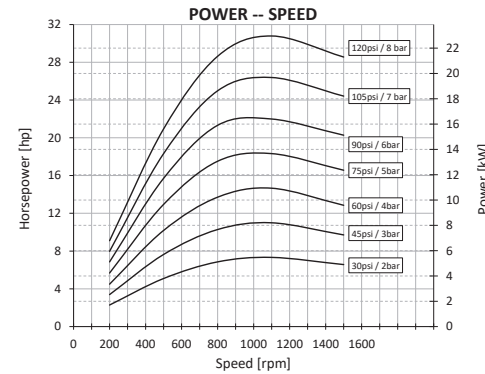
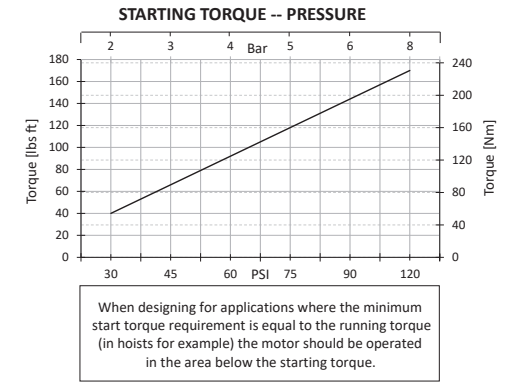
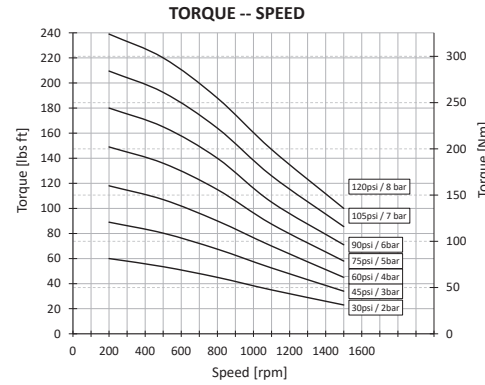


Arrows show direction of rotation with airflow direction as shown (Reverse port connections A & B for opposite rotation)



**Gearbox ratio: None**

**Maximum speed: 1500 RPM**  
**No Control Valve fitted**



## LUBRICATING OIL CAPACITIES

Horizontal 1,1 litres    Vertical 2,1 litres  
Use a good quality hydraulic oil with a viscosity of around 100cSt (460SSU) at 40°C (104°F)

## AIRLINE FILTRATION AND LUBRICATION

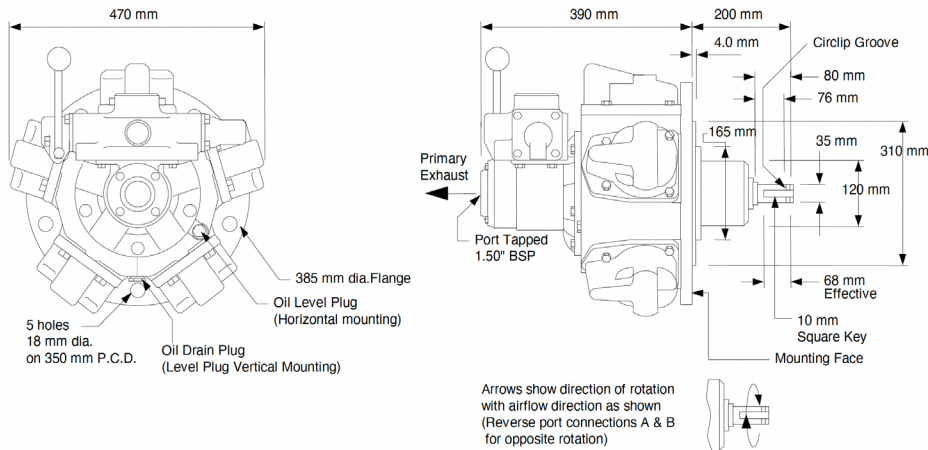
Use 64 micron filtration or better. Choose a lubricator suitable for the flow required. Prior to initial start-up, inject oil into the inlet port.

## GENERAL DATA

MASS (motor only) 115 kgs (254 lbs)  
MOMENT OF INERTIA of rotating parts 14 gm<sup>2</sup> (motor only)  
MAX OVERHUNG FORCE on motor shaft 6500 N (1460 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

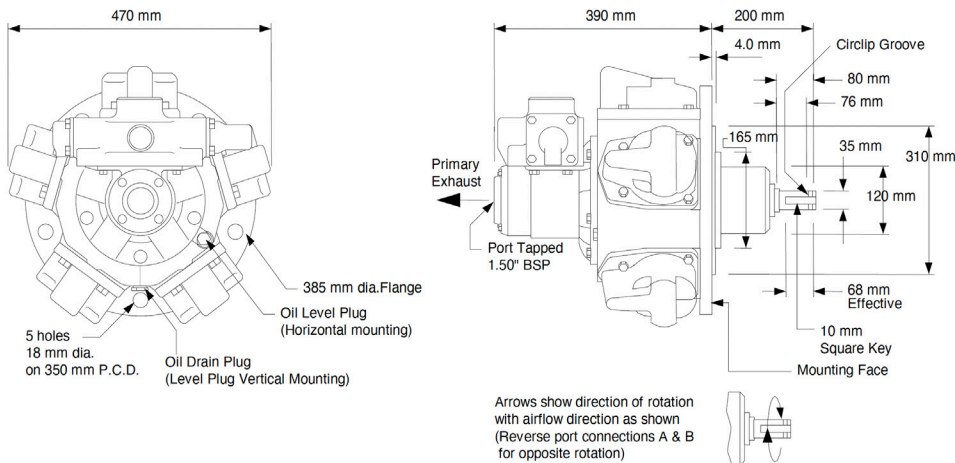
Lubricator drop rate 6-8 drops/minute continuous operation  
Lubricator drop rate 12-16 drops/minute intermittent operation

## Dimensions & Performance RM510 + HCV



Arrows show direction of rotation with airflow direction as shown (Reverse port connections A & B for opposite rotation)

## Dimensions & Performance RM510 + RCV



Arrows show direction of rotation with airflow direction as shown (Reverse port connections A & B for opposite rotation)

## Operational principle RM510 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

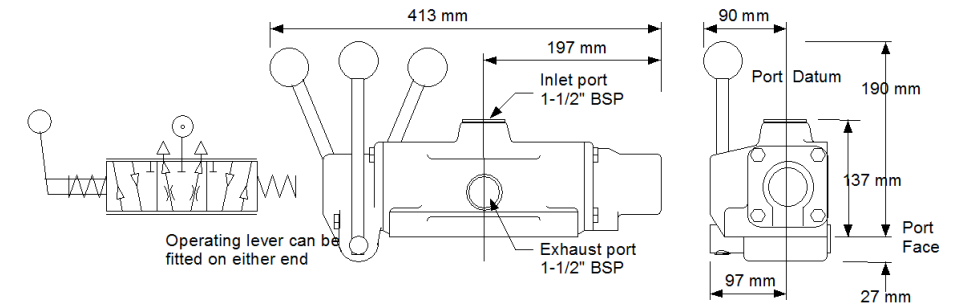
As standard these valves can be supplied with either **EQUAL POWER OR BIASED POWER** spools, the latter is suitable for hoisting applications (normal power for lifting - reduced power for lowering). The direction of reduced power must be stated when ordering **CW** or **CCW**, when viewed on the output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

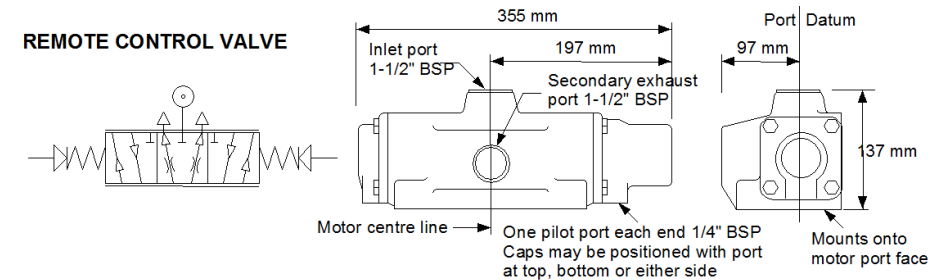
**Remotely Controlled (RCV)** - This option is usually controlled from a remote position by one of the PC series or LC2 remote controllers. A variable air pilot signal is applied to either end of the valve spool, depending on the required direction of motor rotation. The pilot pressure range is between 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

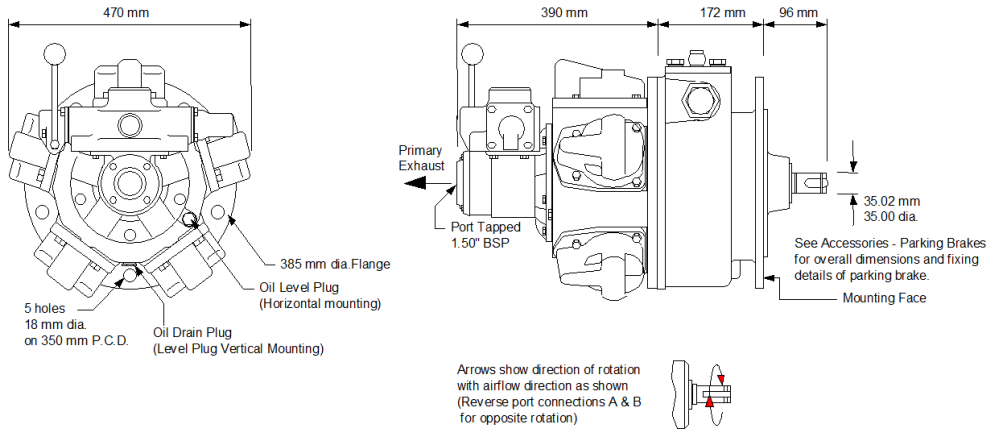


### REMOTE CONTROL VALVE



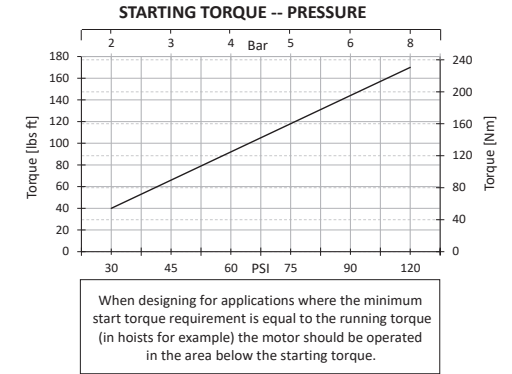
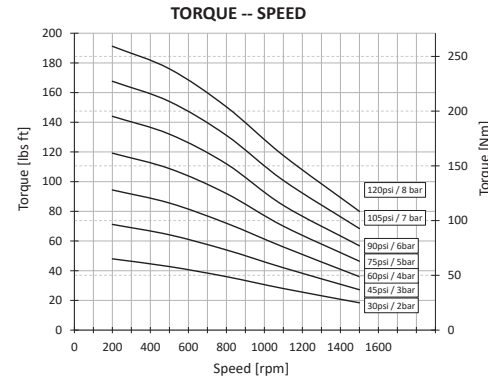


## Dimensions & Performance RM510 + Brake + HCV

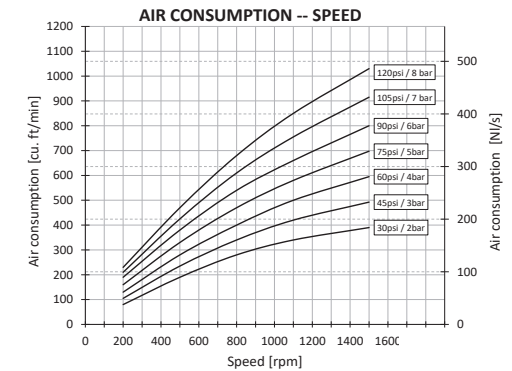
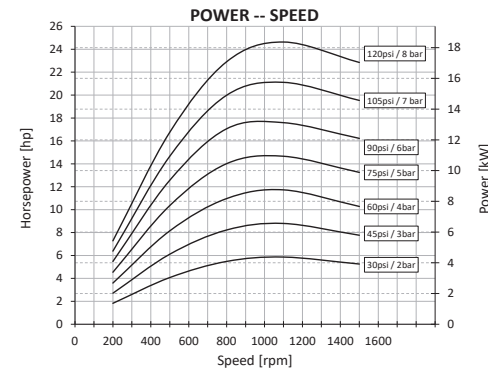
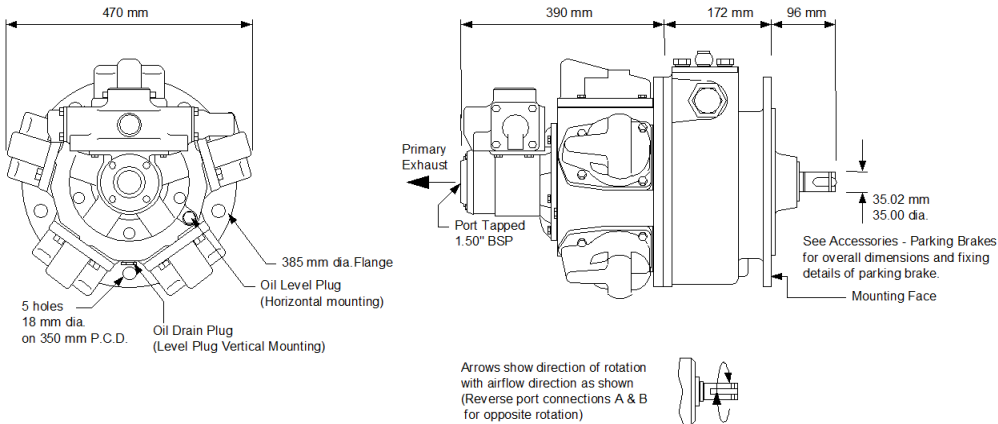


Gearbox ratio: None

Maximum speed: 1350 RPM  
Control Valve Fitted



## Dimensions & Performance RM510 + Brake + RCV



### LUBRICATING OIL CAPACITIES

Horizontal 1,1 litres    Vertical 2,1 litres

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) 115 kgs (254 lbs)

MOMENT OF INERTIA of rotating parts 14 gm<sup>2</sup> (motor only)

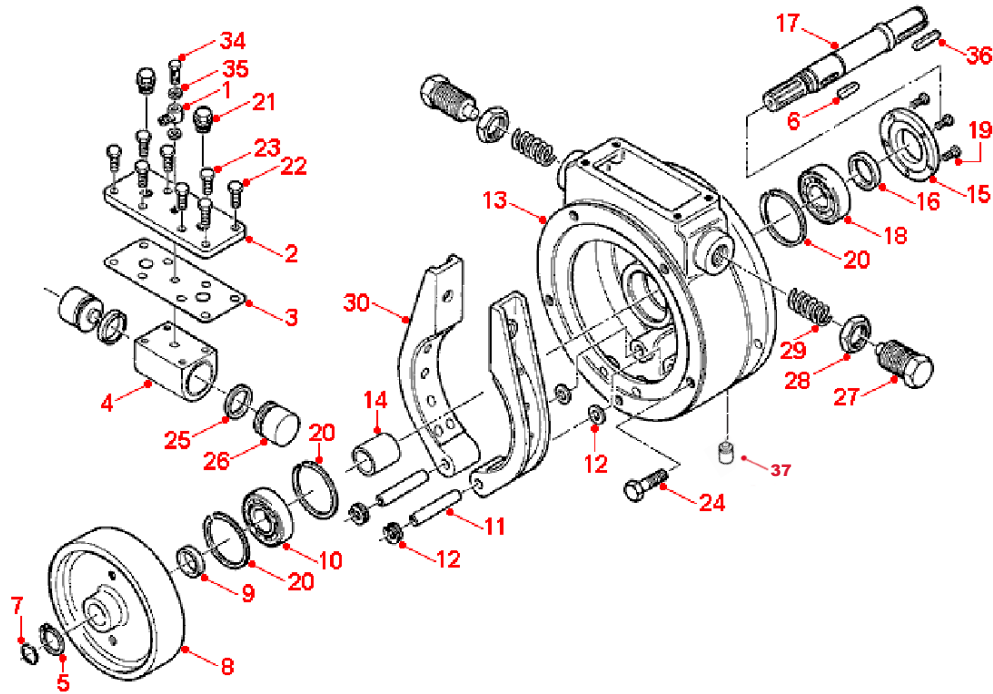
MAX OVERHUNG FORCE on motor shaft 6500 N (1460 lbf)

TEMPERATURE RANGE -20°C to +60°C (-4°F to +140°F)

/ -10°C to +60°C (-14°F to +140°F) with brake

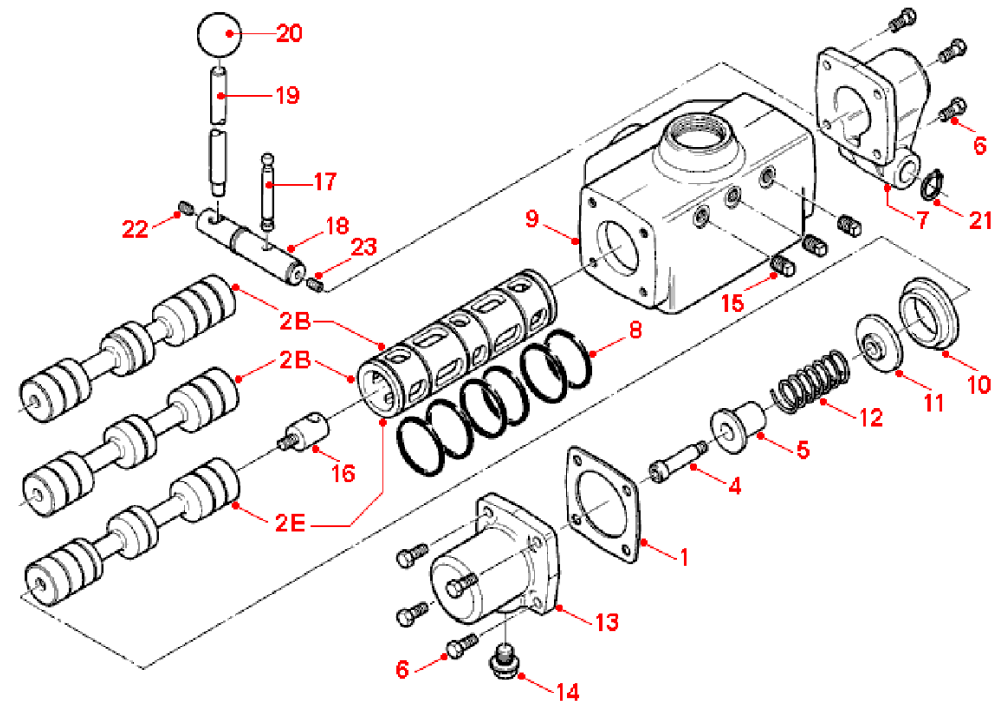
Lubricator drop rate 6-8 drops/minute continuous operation  
Lubricator drop rate 12-16 drops/minute intermittent operation

## Spare Parts List Parking Brake



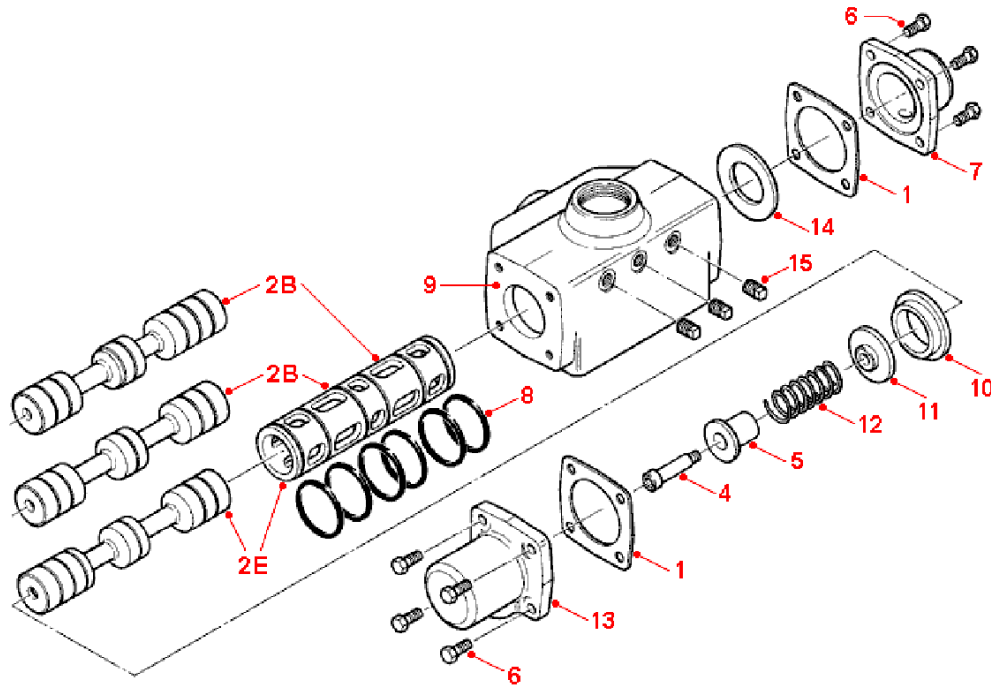
Item	Part No.	Description	Qty
1	816-005	Banjo Body C/W Nut & Pin 5/16"	1
2	512-013	Plunger Plate	1
3	512-030	Gasket Plunger Block	1
4	512-021	Plunger Block	1
5	804-017	Circlip 40mm External	2
6	811-006	Key K130	1
7	808-002	O-Ring - 1/8" x 1-3/8"	1
8	512-001	Brake Wheel	1
9	512-036	Wheel Spacer	1
10	807-013	Bearing 6308 2RS	1
11	412-003	Pin	2
12	803-003	Washer M16	2
13	512-008	Brake Housing	1
14	518-001	Output Bearing Spacer	1
15	518-002	Output Bearing Housing Cap	1
16	808-042	Oilseal 48 x 62 x 8/R4	1
17	512-005	Brake Shaft	1
18	807-063	Roller Bearing	1
19	802-016	Hex Head Screw M6 x 16	5
20	804-068	Circlip 90mm External	3
21	816-265	Screw Plugs (Blueamay)	2
22	802-053	Set Screw M10 x 25	4
23	802-052	Set Screw M10 x 20	4
24	802-094	Bolt M6 x 40 Hex Head	5
25	808-071	U Packing U132	2
26	512-011	Plunger	2
27	512-009	Adjuster Screw	2
28	512-024	Locknut	2
29	814-011	Spring MSD15	2
30	512-901	Brake Shoe Assembly	2
34	816-006	Banjo Bolt 1/4" BSP	1
35	808-090	Bonded Seal 1/4" BSP Dowty	2
36	811-030	Key 10 x 8 x 63	1
37	7008G18	Breather plug 1/8 BSPP (ATEX only)	1

## Spare Parts List Hand Control Valve



Item	Part No.	Description	Qty
01	521-066	End Cap Gasket	1
02E	521-913	Matched Spool and Sleeve	1 (Equipower)
02B	521-914	Matched Spool and Sleeve	1 (Biased)
4	817-002	Shoulder Screw 10 mm	1
5	521-071	Centering Shaft Guide	1
6	802-033	Set Screw M8 x 25	8
7	523-041	Lever Cap	1
8	808-013	O Ring 2" x 1/8"	6
9	521-060	Valve Body	1
10	521-068	Valve Sleeve Spacer	1
11	521-072	Washer, Spring Centering	1
12	814-020	Spring Flexo #03824	1
13	521-064	End Cap - Spring End	1
14	113-050	Vent Plug	1
15	816-061	Plug 1/4" BSPT Sq. Head	3
16	523-024	Toggle Shaft	1
17	523-026	Toggle Pin	1
18	523-008	Hand Lever Pivot	1
19	313-002	Hand Lever	1
20	818-002	Black Plastic Knob 1-1/2"	1
21	804-013	Circlip 20mm External	2
22	815-010	Grub Screw M8 x 10	1
23	815-002	Grub Screw M8 x 16	1

## Spare Parts List Remote Control Valve



Item	Part No.	Description	Qty
01	521-066	End Cap Gasket	2
02E	521-913	Matched Spool and Sleeve	1
02B	521-914	Matched Spool and Sleeve	1
4	817-002	Shoulder Screw 10 mm	1
5	521-071	Centering Shaft Guide	1
6	802-033	Hex Head Screw M8 x 25	8
7	521-065	End Cap - Plain End	1
8	808-013	O Ring 2"x2-1/8"	6
9	521-060	Valve Body	1
10	521-068	Valve Sleeve Spacer	1
11	521-072	Washer, Spring Centering	1
12	814-019	Spring, Control Spool	1
13	521-064	End Cap - Spring End	1
14	521-033	End Cap Washer	1
15	816-074	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

R43

X

XX

H

1

0

### 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 OPTIONS

0 = Standard Motor & Ancillaries, for Standard Mounting

### 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)