MANUAL

RUSH BOOSTER

HIROTAKA MFG. CO.,LTD.

The notes for Using

Be sure to read this before handling

CAUTION

1. **Piping**

   Before installing the piping, blow compressed air to prevent dirt from entering the piping. Select and use piping that can withstand the operating conditions. Release the air before use.

2. **Air Supply**

   Using the compression air with dry via filter.

3. **Hydraulic Fluid (ISO VG22 Standard mineral hydraulic fluid or VG32)**

   If the hydraulic fluid has drain or dirt mixed in with it, or if it has deteriorated or discolored, replace it with new hydraulic fluid. Also, use the same old and new hydraulic oil. Recommended to replace once a year.

4. **Quantity of hydraulic fluid**

   There is an oil level sticker on the side of the oil gauge, so replenish the hydraulic oil if the oil level drops. Also, the hydraulic oil may turn black at the beginning of use, but this is due to initial wear of the seals. There are no negative effects with continued use.

5. **Mounting direction**

   The standard mounting direction is horizontal. Even if the Rush Booster is mounted facing downward or upward, mount the oil gauge with the red cap facing upward.

6. **Return speed adjustment of Rush Booster**

   Adjust the return speed of the Rush Booster using the speed controller so that it is slower than the return speed of the actuator operated by the Rush Booster. This is to prevent the oil pressure in the hydraulic piping from becoming negative pressure and causing air bubbles to leak from the oil gauge or from insufficient pressure. Normal operation after air bleeding is when the Rush Booster moves forward or backward, and the oil level in the oil gauge repeats up and down movements of about 5 to 10 mm. If the return speed of the Rush Booster is fast and the pressure inside the hydraulic piping becomes negative, the oil in the oil gauge will decrease to the extent that it temporarily disappears after the Rush Booster returns, and then air bubbles will be generated and the oil may overflow from thered cap of the oil gauge. In that case, release the air, replenish the oil, and adjust the return speed of the Rush Booster to a slower value. When adjusting the return speed of the Rush Booster after air release, open the speed controller little by little, and do not open it any further if there is no change in the return speed of the actuator.

7. **Air release**

   When releasing the air, lower the air pressure to about 0.2MPa and operate the booster. Also, if there is an air release plug on the actuator side, do not loosen the plug too much. There is a risk of oil gushing out or the plug flying off. There is also a method to air release by supplying air into the oil gauge. (How to air release refer P3)

Using oil ---------- Standard mineral hydraulic fluid (ISO VG22 or 32)

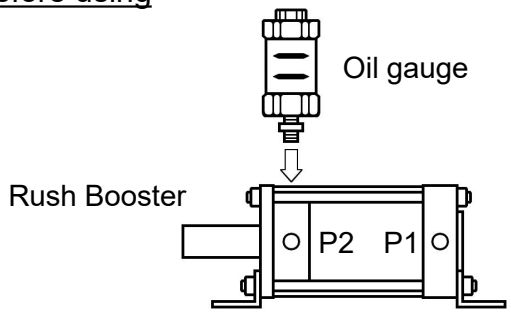
Operating pressurer -------- 0.15MPa to 0.70MPa

Amount of needing oil ------ Amount of discharged oil + about 100cm^3
(Excludes oil amount in hydraulic piping and actuator.)

Example : RB160 × 100 − 65
└ Amount of discharged oil

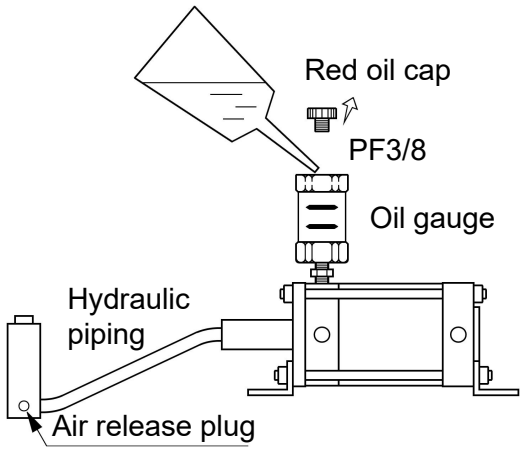
In the case of RB160 × 100 − 65, amount of needing oil is 200cm^3.

Before using



Before using the Rush Booster, attach the included oil gauge to the connecting port (figure position). After completing the air piping and hydraulic piping, very close the speed controller (P1 side) for adjusting the return speed of the Rush Booster to make the return speed of the Rush Booster considerably slower.

How to add oil and air release

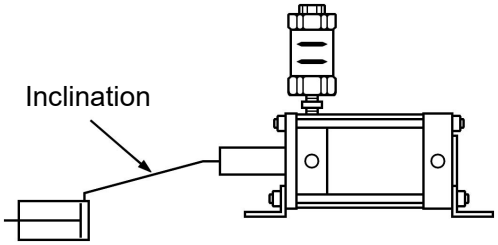


Return both the Rush Booster and actuator to return position, remove the red cap from the oil gauge, and add oil. If the actuator piping connection port is located below the Rush Booster as shown in the figure, and there is a plug on the actuator side, loosen the plug. If it do not have an air release plug, operate the Rush Booster until the air is completely removed.

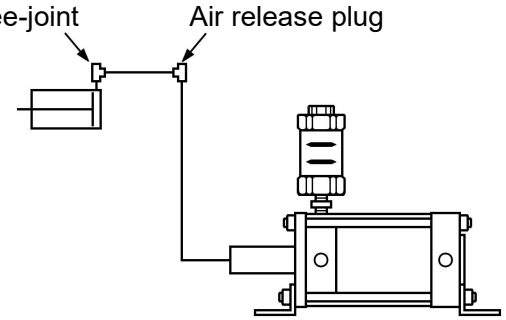
If the actuator piping connection port is located above the Rush Booster, use the PF3/8 screw on the top of the oil gauge to supply low pressure air (0.02 to 0.05MPa) into the oil gauge. Push the air in the hydraulic piping with low-pressure oil and loosen the air release plug on the actuator side to release the air. When the oil in the oil gauge decreases, close the air elease plug, stop the air supply, and replenish the oil. Repeat this to release air, and finally add oil within oil level range. If the air is released correctly, the hydraulic pressure and actuator stroke will be normal.

Hydraulic piping precautions

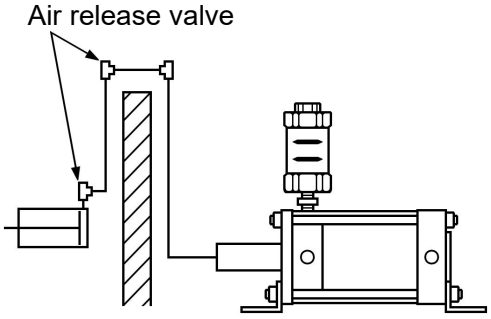
If air gets mixed into the oil in the hydraulic piping or actuator during use, it may prevent proper hydraulic pressure from being generated and the actuator from operating normally. install hydraulic piping with air bleeding in mind.



Rush Booster is located above the actuator.



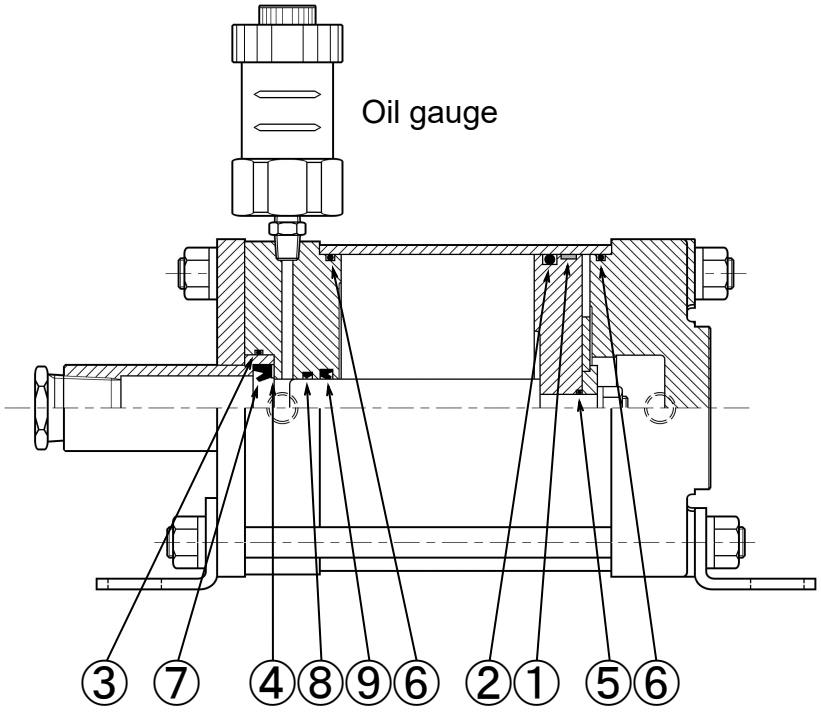
Rush Booster is located below the actuator.

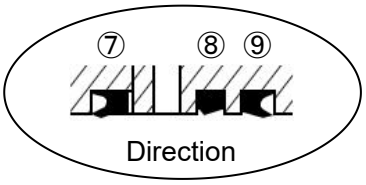


There is an obstruction between the Rush Booster and actuator.

Install an air release at a high position in the middle of the piping.

Packing for RB series (Contact us for the RB300 series.)





No.	1	2	3	4	5	6	7	8	9
Model	Wear ring	Piston packing	O ring	Back up ring	O ring	O ring	Y packing	Rod seal	Rod seal
RB100×□－ 5	SWB100	PPD100	G65	－	P14	G95	ISI 45 55 6	PS45	ISI 45 55 6
RB100×□－12	SWB100	PPD100	G50	－	P14	G95	IDI 28 41 10	PS28	ISI 28 35.5 5
RB160×□－ 5		P150	G90	－	P28	1517#36	ISI 70 80 6	ISI 70,80,6	ISI 70 80 6
RB160×□－16	SWB160	P150	G75	－	P14	1517#36	IDI 40 55 10	PS40	ISI 40 50 6
RB160×□－28	SWB160	P150	G55	－	P14	1517#36	IDI 30 45 10	PS30	ISI 30 40 6
RB160×□－65	SWB160	P150	G55	GN911001	P14	1517#36	IDI 20 33 10	PS20	ISI 20 28 5
RB160×□－100	－	P150	P42	GN910501	P12	1517#36	IDI 16 26 8	PS16	IDI 16 24 5
Q'ty	1	1	1	1	1	2	1	1	1

※How to order for seal kit : "Seal kit for RB-○○ (part no.)" or "Seal kit for RB-○○ (Bore size) ○○times".

Example for part number

RB 100 x □ - 12

Rush Booster

Bore size

Amount of discharged oil

Pressure intensifying ratio

HIROTAKA MFG. CO.,LTD.

HEAD OFFICE 5-89, Ikoma-cho, Kita-ku, Nagoya City, Aichi 462-0832, Japan

Phone +81-52-991-6111 Fax +81-52-991-6115