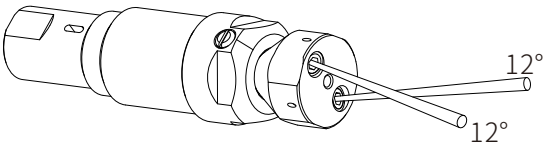
HEADDO Shotgun Swivel (H2, H4)

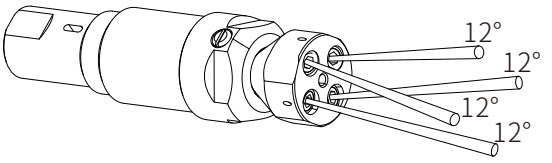
Description

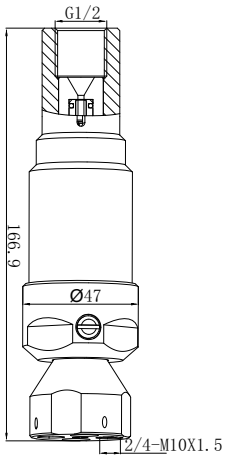
H2/H4 is a self-rotating swivel designed for handheld shotgun waterblast cleaning. It has a 9/16 medium pressure cone and thread inlet port; an adapter is required for 1/2 or 3/8 npt pipe lances. Two standard heads are available; the jet head has M10 nozzle ports. It is best to use two larger jets for thick deposits such as concrete removal, and four jets for thin coatings or scale, as it allows the tool to be moved faster over the surface. Both heads can be used over the entire range of pressure and flow shown on the jetting chart. Only the orifice sizes need to be changed to suit. H2/H4 uses damping oil as a lubricant for the bearings and speed control components. It can be flushed/refilled with damping oli through the fill port using a syringe. This is recommended after every 40 to 60 hours of operation.

Parameter

Model:	H2 Rotary Nozzle	H4 Rotary Nozzle
Pressure:	140 - 1500 Bar	140 - 1500 Bar
Flow:	17- 42 L/min	17- 42 L/min
Speed:	350-2000rpm	200-2000rpm
Size:	Φ47mm/L166.9mm	Φ47mm/L166.9mm
Weight:	1.28kg	1.28kg







Flow in gpm (lpm) for 2-Jet Model (H2)											
Pressure k psi (bar)	Nozzle ID, in.										
	.024	.026	.029	.032	.035	.038	.042	.047	.052	.057	.063
5 (345)							6.5 (25)	8.1 (31)	9.7 (37)	11.3 (43)	13.3 (50)
10 (690)				5.5 (21)	6.5 (25)	7.6 (29)	9.2 (36)	11.4 (43)			
15 (1034)		4.4 (17)	5.5 (21)	6.7 (25)	8.0 (30)	9.4 (36)					
20 (1379)	4.4 (17)	5.1 (19)	6.4 (24)	7.7 (29)							
22 (1517)	4.6 (17)	5.4 (20)	6.7 (25)	8.1 (31)							

Flow in gpm (lpm) for 4-Jet Model (H4)											
Pressure, k psi (bar)	Nozzle ID, in.										
	.018	.020	.022	.024	.026	.029	.032	.035	.038	.042	
5 (345)					5.1 (19)	6.3 (24)	7.5 (28)	8.9 (34)	10.3 (39)	12.1 (46)	
10 (690)			5.2 (20)	6.1 (23)	7.2 (27)	8.8 (33)	10.6 (40)				
15 (1034)	4.3 (16)	5.2 (20)	6.3 (24)	7.5 (28)	8.8 (33)						
20 (1379)	4.9 (19)	6.1 (23)	7.3 (28)								
22 (1517)	5.2 (20)	6.4 (24)	7.7 (29)								

Operation

H2/H4 should always be used with a gun that includes a dump or pressure shut-off mechanism, so that pressure can be rapidly released. The gun barrel length including H2/H4 should be long enough that the gun operator cannot pass the jets over his feet or legs. It is recommended that the thrust produced by the jets be no more than 1/3 the weight of the operator. Install the desired nozzle size into the head; we recommend using Parker Thread Mate and teflon tape on the nozzle threads. Attach H2/H4 to the shotgun barrel. Flush the high pressure hose before connecting to the gun inlet. Check that the dump mechanism functions correctly before going to operating pressure. H2/H4 high pressure seal may initially leak at lower pressure, but the seal should pop shut as pressure is increased. To set the operating pressure, the gun operator should close the dump on the gun, and the pump operator should slowly increase the pressure to allow the gun operator to compensate for the jet thrust. H2/H4 head should be within 2 to 8 inches of the surface, depending on how difficult it is to remove the material.

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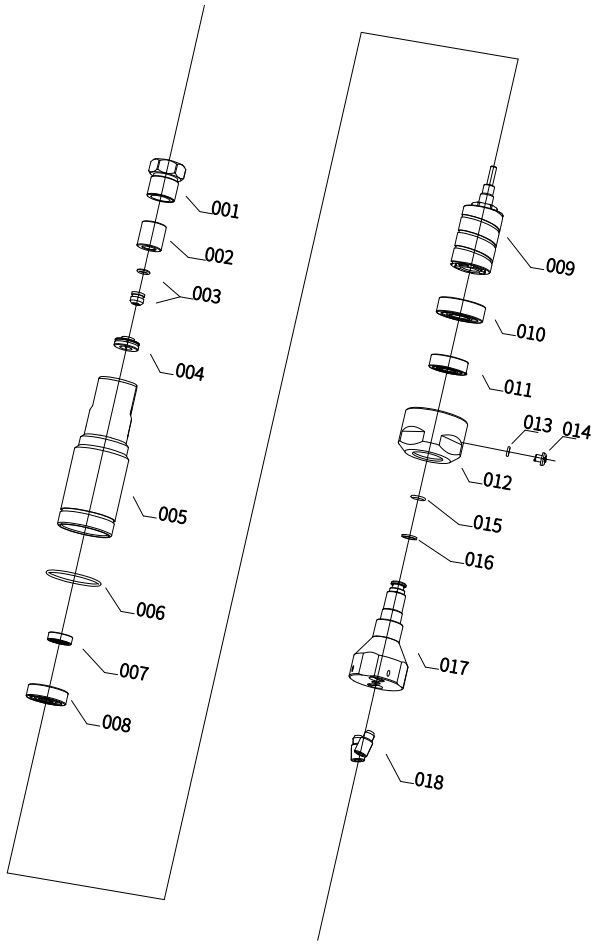
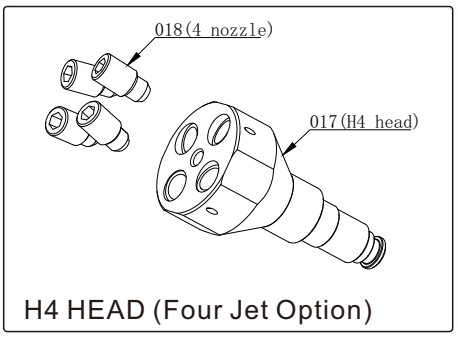
Maintain

To replace the sealing seat and sealing cone sleeve (including sealing components), please do the following:

1. Unscrew the screw sleeve (001) from the tail of the main body (005).
2. With the rotating head (017) facing upwards, gently shake or knock to make the sealing cone sleeve (002) fall out of the main body (005).
3. Use the inner ring of the sealing assembly stuck in the sealing cone to pull it out, and replace the sealing assembly with a new one in time.
4. Check the seal seat (004) for debris or corrosion. If damaged, replace it. Check for burrs on the end of the shaft.
5. Apply grease to the new sealing assembly, press the sealing assembly to the sealing cone sleeve (002) until it is in place, and put the sealing seat (004) with the boss facing down into the sealing cone sleeve (002) to fit it. Gently push the sealing seat (004) upwards into the tail of the main body (005) by hand.
6. Screw the screw sleeve back into the tail of the main body (005).





H4 HEAD (Four Jet Option)

No.	Description	Q'ty
001	screw sleeve	1
002	H2/H4 sealing cone sleeve	1
003	H2/H4 seal assembly	1
004	H2/H4 seal seat	1
005	H2/H4 main body	1
006	O-ring	1
007	H2/H4 rotating shaft oil seal	1
008	Deep groove ball bearing	1
009	H2/H4 rotating shaft	1
010	Angular contact bearing	1
011	H2/H4 rotating shaft oil seal	1
012	H2/H4 locking nut	1
013	O-ring	1
014	H2/H4 refueling bolt	1
015	O-ring	1
016	Circlip	1
017	H2/H4 rotary head	1
018	M10 nozzle	2/4

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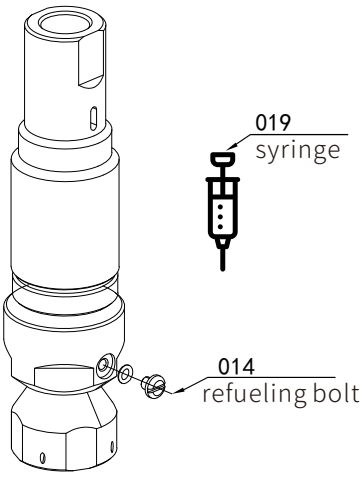
H2/H4 uses damping oil for lubrication. It is recommended to use a syringe to add new damping oil to the filler in the locking nut (012) after every 40 to 60 hours of operation.

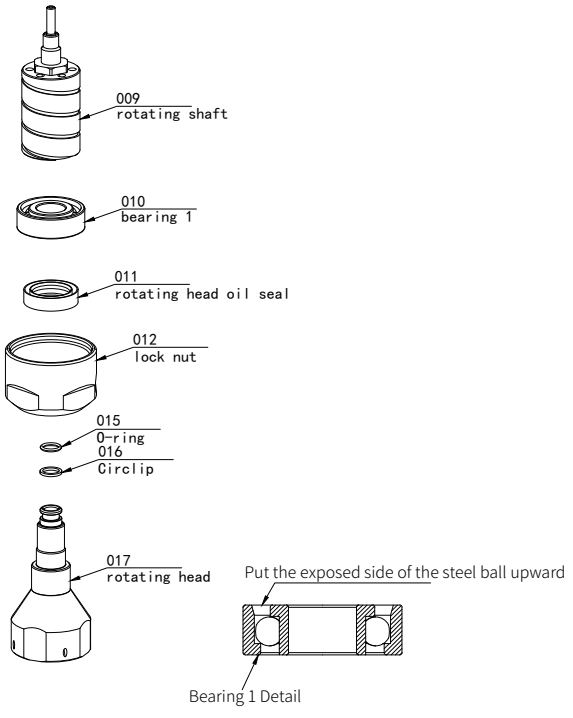
The operation is as follows

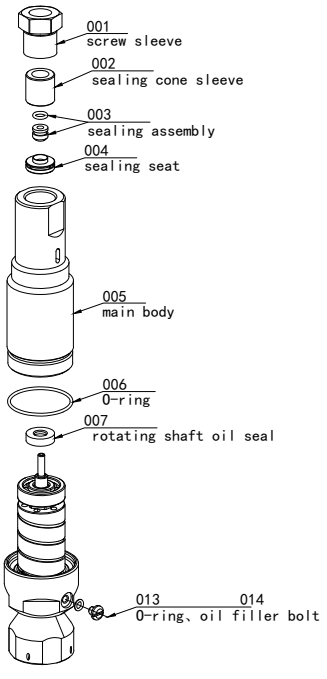
①. Remove the port refueling bolt (014)
②. Insert the syringe (019) into the filler.
③. Squeeze fresh damping oil into the locking nut.
④. Remove the syringe and tighten the refueling bolt (014)

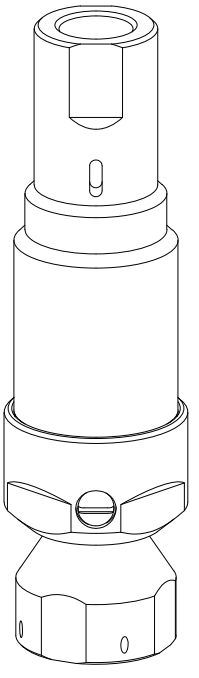


Install

1. Apply grease to the split retaining ring (016) and O-ring (015) and insert them into the rotating head (017) in turn.
2. Put the lock nut (012) into the rotating head (017) to fit the cone surface.
3. Put the bearing 1 (010) steel ball side up into the rotating head (017) and gently press it into place.
4. Lightly screw the rotating shaft (009) into the rotating head (017) first, and then use an open-end wrench or adjustable wrench to screw it in place.
5. Put the bearing 2 (008) into the rotating shaft (009) and gently press it into place.
6. Insert the O-ring (006) into the main body (005).
7. Tighten the main body (005) and the lock nut (012).
8. Put the protruding surface of the sealing seat (004) into the main body (005)
9. Put the sealing assembly (003) into the sealing cone sleeve (002) and press it into place.
10. Put the sealing cone sleeve (including sealing components) (002) into the main body (005) and gently press it in place, and screw the screw sleeve (001) into the main body
11. Put the O-ring (013) into the fueling bolt (014) and screw it into place with the lock nut (012).







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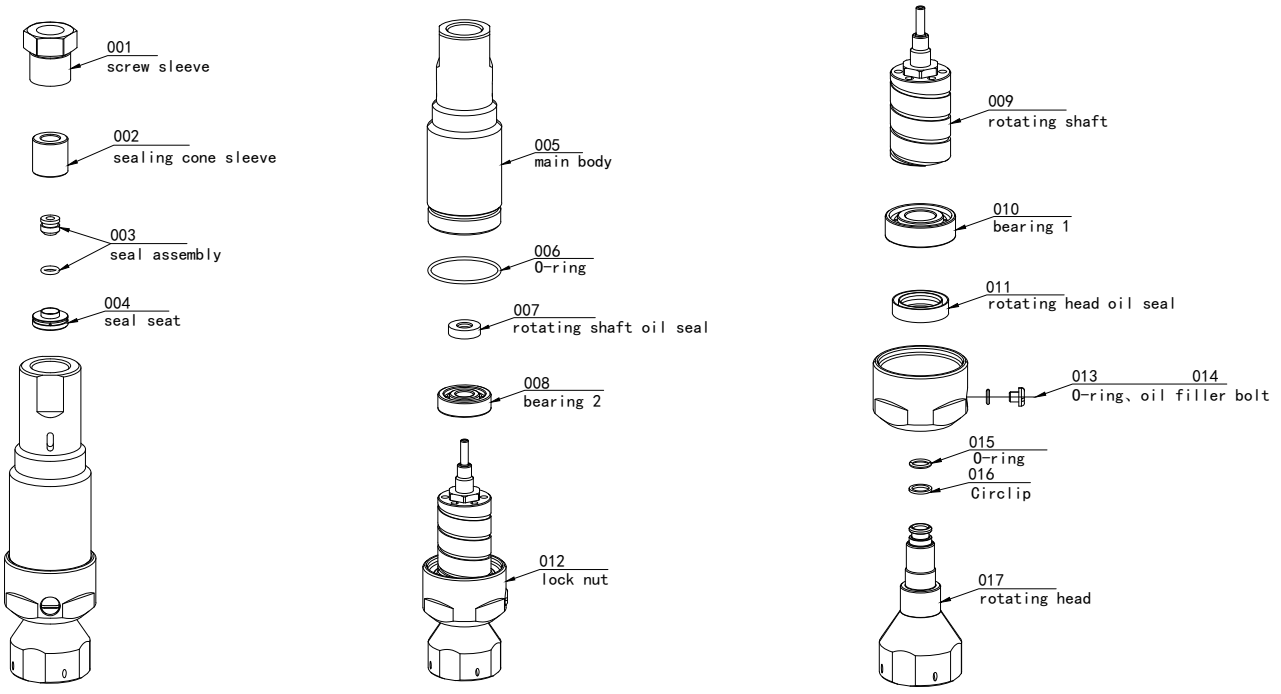
Disassemble

1. Unscrew the screw sleeve (001) from the main body (005), pour out the sealing cone sleeve (002) and the sealing seat (004).
2. Pry out the sealing assembly (003) from the sealing cone sleeve (002).
3. Unscrew the main body (005) from the lock nut (012) and remove the O-ring (006).
4. Remove bearing 2 (008) from the rotating shaft (009), and use an adjustable wrench or open-end wrench to unscrew the rotating shaft and set it aside.
5. Use snap ring pliers to clamp the rotating shaft oil seal (007) from the inside of the main body (005) and pull it out.
6. Remove the rotating shaft (009) from the rotating head (017), and use snap ring pliers to clamp the rotating head oil seal (011) and pull out.
7. Remove the O-ring (015) and the split retaining ring (016) from the rotating head (017).
8. Unscrew the oil filler bolt (014) from the lock nut (012) and remove the O-ring (013).



Troubleshooting

① High Pressure Seal Leak: if water is coming out of the slots in the body, see if it is coming out the bottom of the slot (near the head) or the top of the slot (near the inlet end). If it is coming out near the inlet end, it is the inlet connection that is leaking. If it is coming out the bottom of the slot, it is the high pressure seal that is leaking.Follow the directions below to replace the carbide seat and high pressure seal; if it still leaks then the shaft end may be damaged and needs to be repaired or replaced.

② Seals wear out quickly: When the life of the high pressure seal becomes noticeably less, the seal holder needs to be replaced.

③ Will not rotate: Check the nozzles to see if they are plugged or partially plugged. To clean them, they must be removed from the head; it does not do any good to poke the material plugging the nozzle back into the head. Check that the nozzles are the correct size based on the chart above. If all of these things appear to be correct, the tool may need to be disassembled and repaired. If the rotating head has just been reinstalled and starts to rotate, but stops with the increase of pressure, tighten the locking nut and the main body again. If it still does not rotate, the whole rotating nozzle needs to be removed for repair.

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