

- ① PISTON ROD SCRAPER  
PROLONGS CYLINDER & PISTON ROD LIFE  
BY PROVIDING POSITIVE EXCLUSION OF  
FOREIGN MATTER
- ② GLAND NUT  
PHOS. BRONZE, SCREWED TYPE FOR EASY  
ADJUSTMENT AND REPLACEMENT (WITH  
LOCKING PROVISION)
- ③ GLAND  
PRECISION MADE ALL STEEL FOR MAXIMUM  
STRENGTH.
- ④ GLAND PACKING  
EXCELLENT LOW & HIGH PRESSURE  
MECHANICALLY ACTIVATED MULTI-LIP ROD SEAL.
- ⑤ GLAND SEAL  
O-RING FOR POSITIVE GLAND SEALING
- ⑥ CYLINDER BARREL  
MANUFACTURED FROM COLD DRAWN SEAMLESS  
TUBE, HONED FOR LONG SEAL LIFE.
- ⑦ PISTON ROD  
MANUFACTURED FROM HARD CHROME PLATED  
ALLOY STEEL.
- ⑧ PISTON SEAL  
O-RING FOR POSITIVE SEALING.
- ⑨ PISTON  
2 PIECE STEEL PISTON
- ⑩ PISTON PACKING  
ROBUST DESIGN WITH WEAR RINGS  
FOR POSITIVE SEALING AND LONG LIFE
- ⑪ PISTON NUT  
GUARANTEES POSITIVE PISTON RETENTION
- ⑫ PORTS  
STANDARD B.S.P.P. PORTS
- ⑬ PISTON LOCKING SCREW  
GRUB SCREW FOR POSITIVE LOCKING.
- ⑭ END CAP

CYLINDER SPECIFICATION

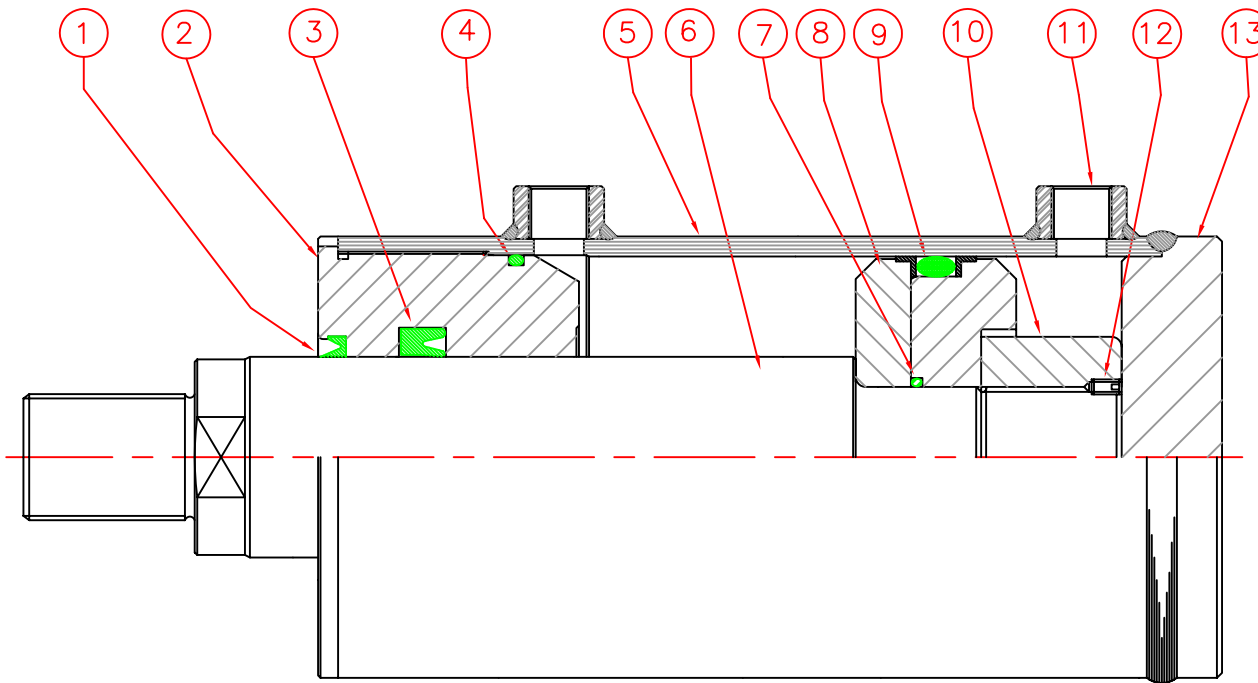
DOUBLE ACTING  
NON CUSHIONED  
2000 P.S.I. WORKING PRESSURE  
3000 P.S.I. NON SHOCK  
-40°C TO +80°C WORKING TEMPERATURE

GENERAL ARRANGEMENT



HR SERIES  
HYDRAULIC CYLINDERS

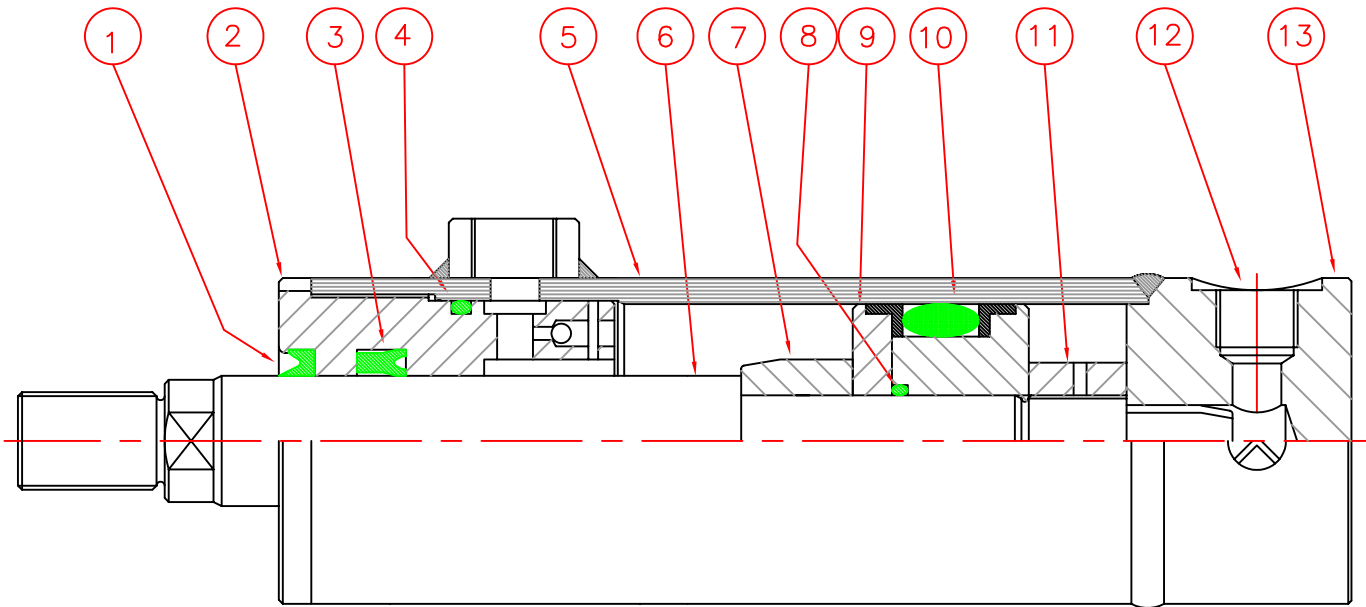
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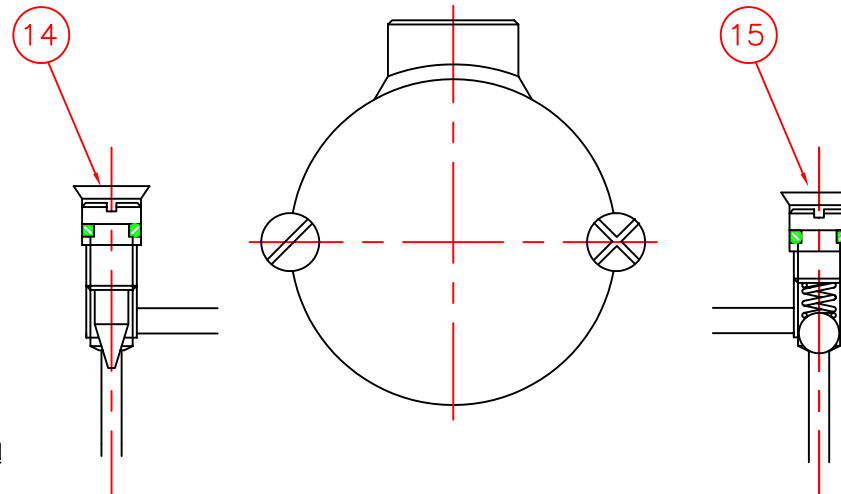
- ① PISTON ROD SCRAPER  
PROLONGS CYLINDER & PISTON ROD LIFE  
BY PROVIDING POSITIVE EXCLUSION OF  
FOREIGN MATTER
- ② GLAND  
PRECISION MADE FROM CAST IRON.
- ③ ROD SEAL  
LOW FRICTION, HIGH PERFORMANCE  
GENERAL PURPOSE SEAL.
- ④ GLAND SEAL  
O-RING FOR POSITIVE GLAND SEALING
- ⑤ CYLINDER BARREL  
MANUFACTURED FROM COLD DRAWN SEAMLESS  
TUBE, HONED FOR LONG SEAL LIFE.
- ⑥ PISTON ROD  
MANUFACTURED FROM HARD CHROME PLATED  
ALLOY STEEL.
- ⑦ PISTON SEAL  
O-RING FOR POSITIVE SEALING.
- ⑧ PISTON  
2 PIECE STEEL PISTON
- ⑨ PISTON PACKING  
ROBUST DESIGN WITH WEAR RINGS  
FOR POSITIVE LONG LIFE
- ⑩ PISTON NUT  
GUARANTEES POSITIVE PISTON RETENTION
- ⑪ PORTS  
STANDARD B.S.P.P. PORTS
- ⑫ PISTON LOCKING SCREW  
GRUB SCREW FOR POSITIVE LOCKING.
- ⑬ END CAP

CYLINDER SPECIFICATION

DOUBLE ACTING  
NON CUSHIONED  
2000 P.S.I. WORKING PRESSURE  
3000 P.S.I. NON SHOCK  
-40°C TO +80°C WORKING TEMPERATURE



- ① PISTON ROD SCRAPER  
PROLONGS CYLINDER & PISTON ROD LIFE  
BY PROVIDING POSITIVE EXCLUSION OF  
FOREIGN MATTER
- ② GLAND  
PRECISION MADE FROM CAST IRON  
WITH INBUILT NON ADJUSTABLE CUSHION
- ③ ROD SEAL  
LOW FRICTION, HIGH PERFORMANCE  
GENERAL PURPOSE SEAL.
- ④ GLAND SEAL  
O-RING FOR POSITIVE GLAND SEALING
- ⑤ CYLINDER BARREL  
MANUFACTURED FROM COLD DRAWN SEAMLESS  
TUBE, HONED FOR LONG SEAL LIFE.
- ⑥ PISTON ROD  
MANUFACTURED FROM HARD CHROME PLATED  
ALLOY STEEL.
- ⑦ CUSHION SLEEVE  
BRONZE LOADED FOR CLOSE TOLERANCE FIT
- ⑧ PISTON SEAL  
O-RING FOR POSITIVE SEALING.
- ⑨ PISTON  
2 PIECE STEEL PISTON
- ⑩ PISTON PACKING  
ROBUST DESIGN WITH WEAR RINGS  
FOR POSITIVE SEALING AND LONG LIFE
- ⑪ PISTON NUT  
GUARANTEES POSITIVE PISTON RETENTION
- ⑫ PORTS  
STANDARD B.S.P.P. PORTS
- ⑬ END CAP  
WITH ADJUSTABLE CUSHIONS
- ⑭ CUSHION NEEDLE VALVE  
ALLOWS CUSHION ADJUSTMENT
- ⑮ CUSHION CHECK VALVE



CUSHION ASSEMBLY – REAR VIEW  
REAR CUSHIONS ARE ADJUSTABLE  
FRONT CUSHIONS DO NOT ALLOW FOR ADJUSTMENT

CYLINDER SPECIFICATION  
DOUBLE ACTING  
CUSHIONED BOTH ENDS  
2000 P.S.I. WORKING PRESSURE  
3000 P.S.I. NON SHOCK  
-40°C TO +80°C WORKING TEMPERATURE