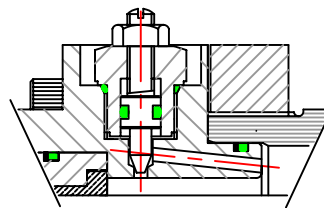


**CUSHION CHECK VALVE**

CUSHIONED CYLINDERS ARE PROVIDED WITH A CHECK VALVE TO FACILITATE AN EFFECTIVE BREAKAWAY ON THE RETURN STROKE THE CHECK VALVE ALSO INCORPORATES AN AIR BLEED FOR VENTING THE CYLINDER



**CUSHION NEEDLE VALVE**

CUSHION NEEDLE ALLOWS CONTROL OVER RATE OF CUSHIONING CUSHION COMPONENTS FEATURE STAINLESS STEEL NEEDLE AND CHECK VALVE COMPRESSION SPRING AND HARDENED CHROME STEEL BALLS

- ① **GLAND RETAINER**  
MANUFACTURED FROM STEEL AND RETAINED BY HIGH TENSILE CAP SCREWS, ALLOWING QUICK ACCESS TO THE ROD SEAL WHEN REQUIRED. THE RETAINER ALSO HOUSES THE ROD WIPER AND GLAND BUSH.
- ② **GLAND & BEARING BUSH**  
BOTH ITEMS MANUFACTURED FROM PHOSPHOR BRONZE. THE INNER ROD BEARING IS AUTOMATICALLY LUBRICATED.
- ③ **GLAND SEAL**  
HEAVY DUTY CHEVRON PACKING.
- ④ **GLAND CARTRIDGE**  
MANUFACTURED FROM STEEL. HOUSING THE GLAND SEAL AND ROD BEARING BUSH.
- ⑤ **HEAD AND CAP RETAINING SCREWS**  
HIGH TENSILE SOCKET HEAD CAP SCREWS WITH NUTS AND LOCK NUTS.
- ⑥ **PORTS**  
PORTS MAY BE LOCATED IN ANY OF FOUR POSITIONS RELATIVE TO THE VARIOUS STANDARD MOUNTINGS.
- ⑦ **PISTON ROD**  
MANUFACTURED FROM ALLOY STEEL. ALL RODS ARE INDUCTION HARDENED TO ROCKWELL "C" 54 MINIMUM BEFORE HARD CHROME PLATING AND POLISHING TO A MINIMUM OF 0.2 MICRONS TO ENSURE MAXIMUM SEAL AND BEARING LIFE.
- ⑧ **HEAD & CAP ENDS**  
MANUFACTURED FROM STEEL WITH PRECISELY MACHINED SPIGOTS TO ENSURE ACCURATE ALIGNMENT WITH THE CYLINDER BORE. SEALING OF THE CAPS TO THE BARREL IS EFFECTED BY "O"-RING AND ANTI-EXTRUSION RING.
- ⑨ **CYLINDER BARREL**  
MANUFACTURED FROM HEAVY WALL SEAMLESS TUBING. BORES ARE HONED AND POLISHED FOR LONGER SEAL LIFE. CHROME BORES ARE RECOMMENDED WHERE SOLUBLE OIL AND WATER SOLUTIONS ARE USED.
- ⑩ **FRONT CUSHION SLEEVE**  
MANUFACTURED FROM BRONZE AND SELF CENTERING FOR PRECISE ALIGNMENT.
- ⑪ **PISTON ASSEMBLY**  
TWO PIECE PISTON MANUFACTURED FROM STEEL. POSITIVELY SECURED TO THE ROD BY A GRUB SCREW AND PEENED OVER PRIOR TO FINAL ASSEMBLY.
- ⑫ **PISTON SEALS**  
DOUBLE ACTING SEAL COMPRISING OF A SEAL AND TWO "L" SHAPED BEARING RINGS TO GIVE A VERY ROBUST HEAVY DUTY SEAL ASSEMBLY FOR SPLIT PISTONS. FOR ALTERNATIVE PISTON AND SEAL ARRANGEMENT REFER TO "NON-STANDARD" ALTERNATIVES.

ITEM	RECORD CHANGE

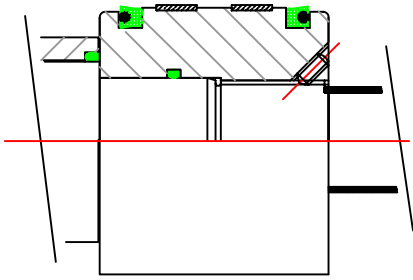
NOMINAL PRESSURE 250 BAR  
BORE SIZE 50 MM - 500 MM  
FLANGED CONSTRUCTION AT EACH END  
FACTOR OF SAFETY 4:1

**HYDROIL PTY. LTD**

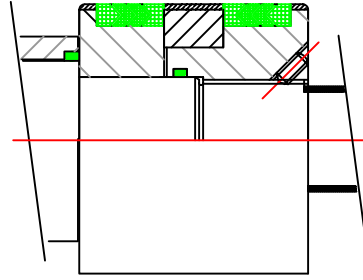
110-112 RICHMOND ROAD    PH: (08) 8297 7533    FAX: (08) 8297 0549  
KESWICK S.A. 5035

METRIC MILL CYLINDERS		ISO 6022		MARK	DESCRIPTION	NO. OFF	MATERIAL
				SCALE			DRG. NO
				APPROVED BY	DRAWN	HHMI SERIES	
					TRACED		
				DATE	CHECKED	REV	

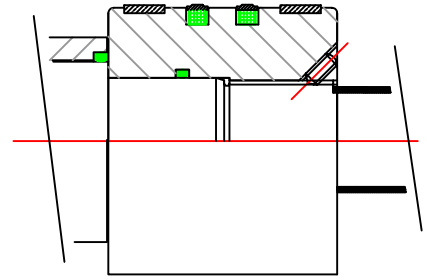
PISTON ALTERNATIVES.



ONE PIECE PISTON WITH  
SINGLE LIP SEALS AND  
WEAR RINGS OR FLAKE  
FREE BRONZE LOADING

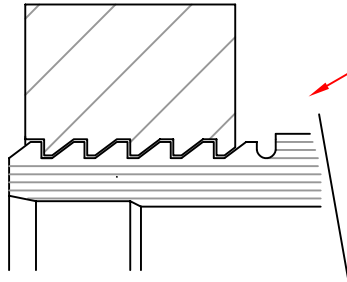


HEAVY DUTY PISTON  
WITH "SHALLEX" VEE  
PACKINGS AND FLAKE  
FREE BRONZE LOADING



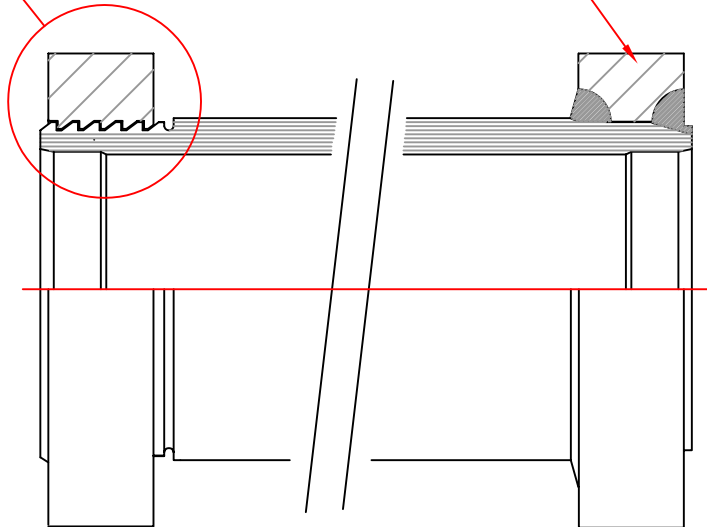
ONE PIECE PISTON WITH  
LOW FRICTION SEALS  
AND WEAR RINGS

NOTE: SIMILAR SEALS CAN ALSO BE INCORPORATED IN THE CYLINDER GLAND

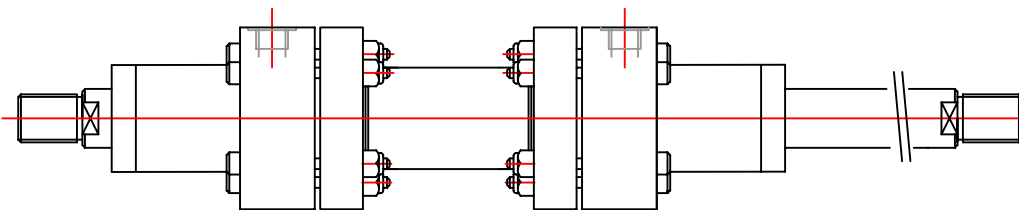


STANDARD FLANGE FIXING IS BY  
MEANS OF A BUTTRESS THREAD

BARRELS CAN BE SUPPLIED WITH  
"NON-STANDARD" WELDED FLANGES  
IF REQUIRED



CYLINDER BARREL



DOUBLE ENDED CYLINDER

"NON-STANDARD" CYLINDERS CAN BE PRODUCED TO SUIT CUSTOMER REQUIREMENTS  
PISTON ROD AND BORE DIAMETERS ETC. CONFORM TO ISO 6022