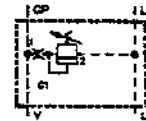


**INDEX TO SCREW-IN CARTRIDGE
SERIES 601-M CONTROL MODULES
(DS 85100)**

| | |
|--|-----------------|
| Relief Valves | DS-85100-D.100 |
| Two-Way Valves | DS-85100-D.200 |
| Relief Valve & Two-Way Valves | DS-85100-D.300 |
| Pull out to Read Gauge, Series | DS-85100-D.400 |
| Pull out to Read Gauge, Parallel to Read | DS-85100-D.401 |
| Needle Valve | DS-85100-D.500 |
| Proportional Pressure Control (P ² C) | DS-85100-D.600 |
| Single Pressure Switches | DS-85100-D.800 |
| Dual Pressure Switch | DS-85100-D.900 |
| Sub-Plate Control Module | DS-85100-D.1000 |

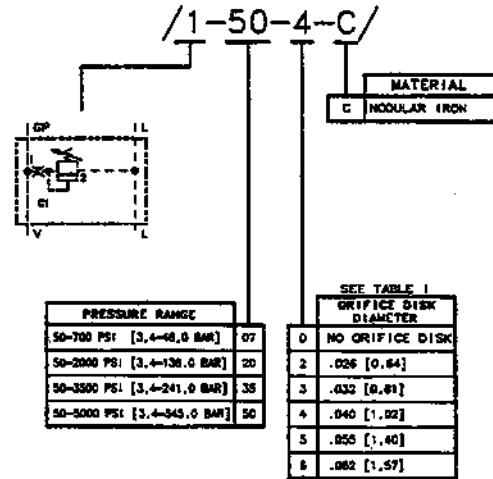
SERIES 601-M



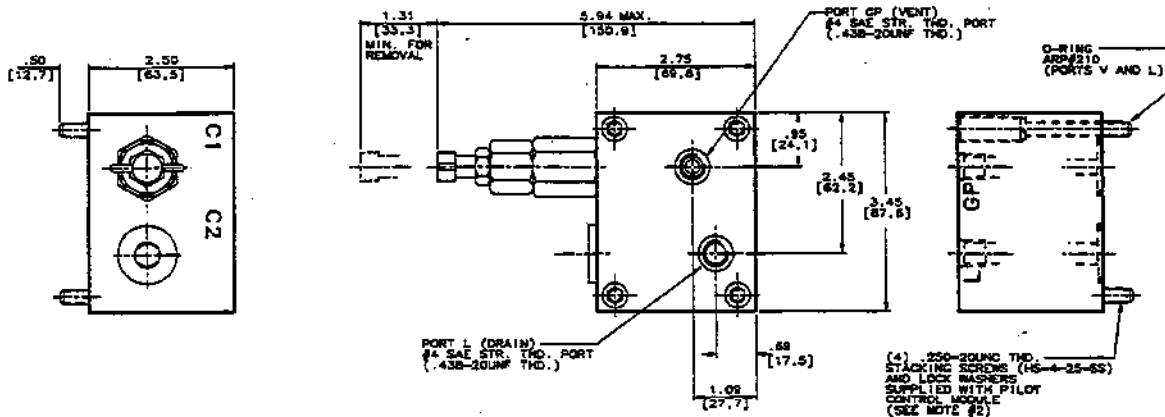
Data Sheet

Pilot Control Module, Relief Valve

PILOT CONTROL WHEN ORDERING AS A LOOSE ITEM



| PRESSURE RANGE | | ORIFICE DISK DIAMETER |
|-----------------------------|----|-----------------------|
| 50-700 PSI [3,4-48,0 BAR] | 07 | 0 NO ORIFICE DISK |
| 50-2000 PSI [3,4-138,0 BAR] | 20 | 2 .026 [0,64] |
| 50-3500 PSI [3,4-241,0 BAR] | 35 | 3 .032 [0,81] |
| 50-5000 PSI [3,4-345,0 BAR] | 50 | 4 .040 [1,02] |
| | | 5 .055 [1,40] |
| | | 6 .082 [1,57] |



| MODULE | CARTRIDGE VALVE | CARTRIDGE CATALOG PAGE NO. | CARTRIDGE SEAL KIT |
|--------|-----------------|----------------------------|--------------------|
| / / | HSLR602-P-XX-X | DS 82550-B2.1 | HSSK-600-D |

* DESIGN SERIES SUBJECT TO CHANGE. NEW SERIES WILL BE FUNCTIONALLY AND PHYSICALLY INTERCHANGEABLE.

TABLE 1
PILOT CONTROL ORIFICE DISK DIAMETER MUST BE THE SAME AS THE MAIN CARTRIDGE VALVE ORIFICE PLUG DIAMETER.

| MAIN CARTRIDGE VALVE | ORIFICE PLUG DIAMETER | | | |
|-----------------------|-----------------------|------|------|------|
| | B00 | 1200 | 1600 | 2000 |
| HCR, HCS, HCU, & HCU0 | .040 | .040 | .040 | .040 |
| HSPR, HSPRD, & HSPRR | .032 | .032 | .032 | .040 |

- NOTES:
- 5000 PSI [345 BAR] MAXIMUM SERVICE PRESSURE.
 - MAXIMUM RECOMMENDED STACKING SCREW TORQUE, 130 IN.-LBS. [14,69 N-M] FOR MULTIPLE STACKING OF MODULES. BOTTOM MODULE STACKING SCREWS TO BE TORQUED TO 130 IN.-LBS. [14,69 N-M]. FOR EACH SUBSEQUENT MODULE, REDUCE TORQUE BY 5 IN.-LBS. [0,56 N-M].
 - FOR REPLACEMENT BOLT KIT ORDER : HSSK-PCM-D
 - FOR REPLACEMENT MODULE SEAL KIT ORDER : HSSK-PCM-A

INCHES
[mm]

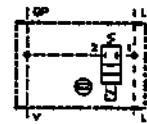
501912HS

Telephone: (414) 327-1700
Fax: (414) 327-0532

OILGEAR
2300 So. 51st. Street
Milwaukee, WI USA 53219

Reissued: Nov., 1995
DS 85100-D.100

SERIES 601-M

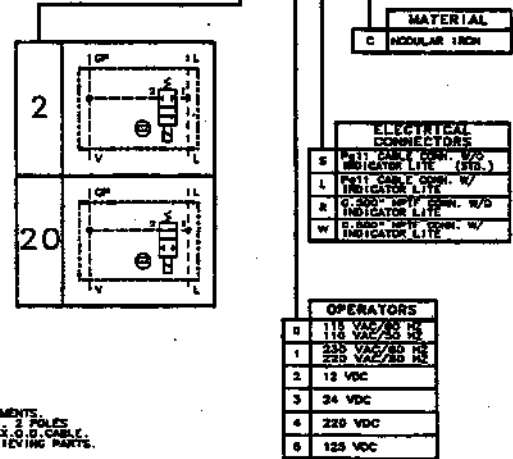


Data Sheet

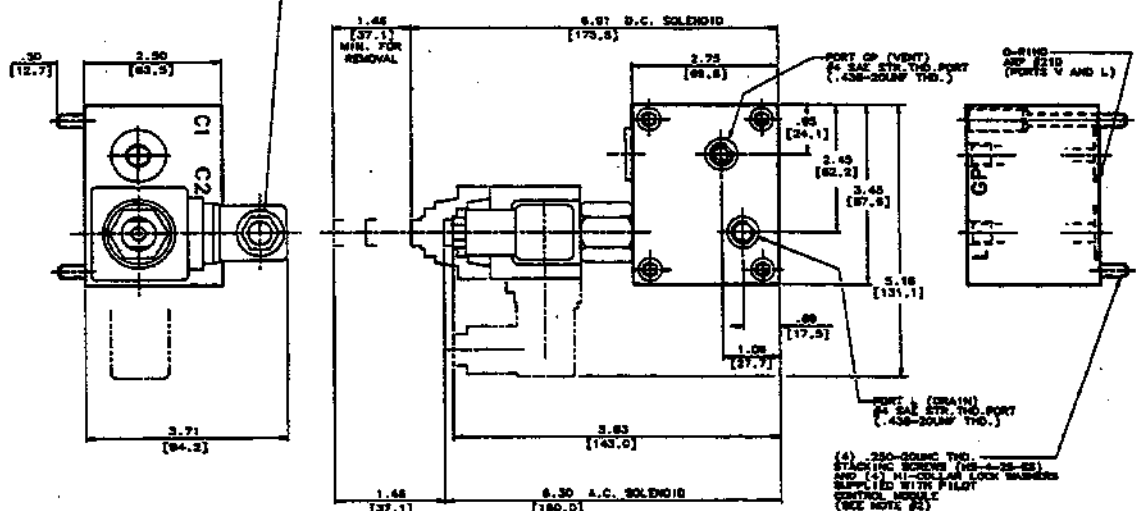
Pilot Control Module, 2-Way Valves

PILOT CONTROL WHEN ORDERING AS A LOOSE ITEM

/20-OS-C/



P111 CABLE CONNECTOR SHOWN
CONNECTOR CAN BE ROTATED ON 90° INCREMENTS.
P111 CABLE CONNECTOR IS PER DIN 43850, 2 POLES
AND GROUND 18-20 GAUGE WIRE 1/4" .438 MAX. O.D. CABLE.
CONNECTOR IS SUPPLIED WITH STRAIN RELIEVING PARTS.



VIEW OF SOLENOID WITH CONNECTOR REMOVED (A.C. & D.C.)

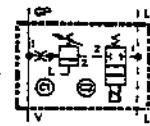
| SOLENOID CURRENT RATINGS | | | | |
|--------------------------|----------|-----------------|--------|---------|
| OPERATOR | VOLTS AC | AMPERES | | |
| | | 60 HZ | 50 HZ | 60 HZ |
| | | MINIMUM HOLDING | INrush | HOLDING |
| 0 | 115 | 1.70 | .46 | 1.80 |
| 1 | 230 | .66 | .22 | .80 |
| 2 | 12 | 2.20 | | |
| 3 | 24 | 1.25 | | |
| 4 | 220 | .75 | | |
| 5 | 125 | .25 | | |

| MODULE | CARTRIDGE VALVE | CARTRIDGE CATALOG PAGE NO. | CARTRIDGE SEAL KIT |
|--------|-----------------|----------------------------|--------------------|
| /2/ | H55VC-60A-JXX | D5 80152 C1.1 | H55K-600-1 |
| /20/ | H55VD-60A-JXX | D5 80152 C1.1 | H55K-600-1 |

- * DESIGN SERIES SUBJECT TO CHANGE. NEW SERIES WILL BE FUNCTIONALLY AND PHYSICALLY INTERCHANGEABLE.
- NOTES:
 1) 5000 PSI [345 BAR] MAXIMUM SERVICE PRESSURE
 2) MAXIMUM RECOMMENDED STACKING SCREW TORQUE, 130 IN.-LBS. [14.00 N-m] FOR MULTIPLE STACKING OF MODULES. BOTTOM MODULE STACKING SCREWS TO BE TIGHTENED TO 130 IN.-LBS. [14.00 N-m] FOR EACH SUBSEQUENT MODULE. REDUCE TORQUE BY 5 IN.-LBS. [0.56 N-m].
 3) FOR REPLACEMENT BOLT KIT ORDER : H55K-PM0-0
 4) FOR REPLACEMENT MODULE SEAL KIT ORDER : H55K-PM0-A

501913-HS

SERIES 601-M

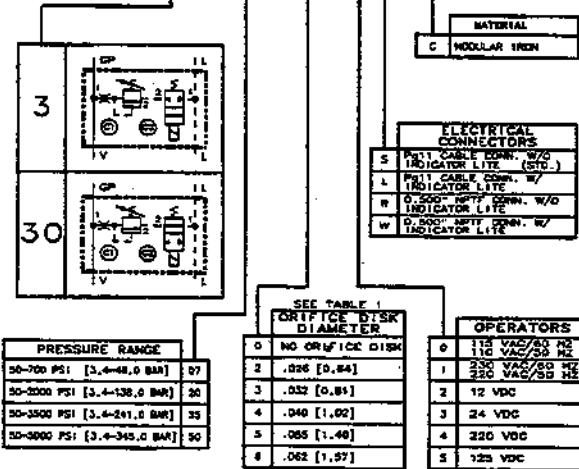


Data Sheet

Pilot Control Module, Relief and 2-Way Valves

PILOT CONTROL WHEN ORDERING AS A LOOSE ITEM

/30-50-0-0S-C/



P111 CABLE CONNECTOR SHOWN. CONNECTOR CAN BE ROTATED ON 90° INCREMENTS. P111 CABLE CONNECTOR IS PER DIN #3852. 3 POLES AND GROUND. 18-20 GAGE WIRE 1/4" LGE MAX. O.D. CABLE CONNECTOR IS SUPPLIED WITH STRAIN RELIEVING PARTS.

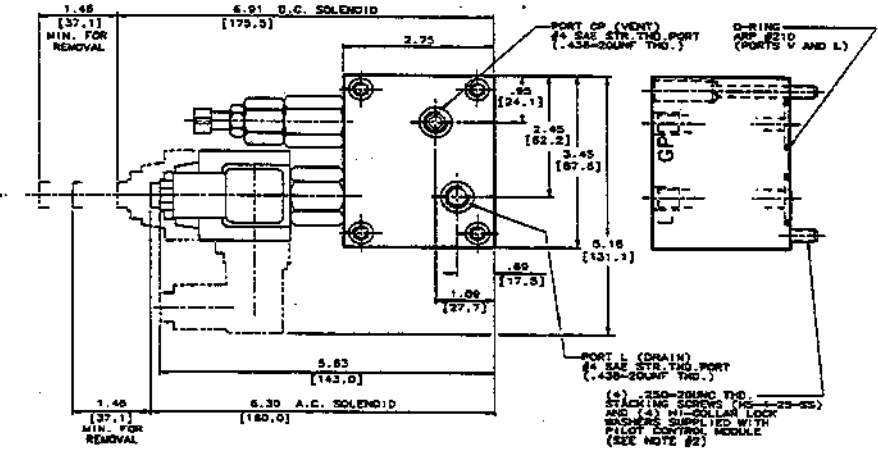
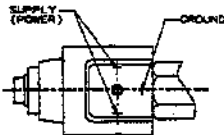
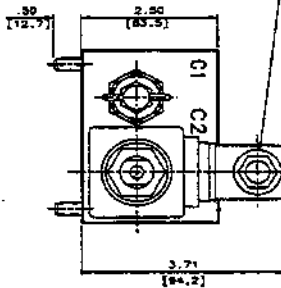


TABLE 1

PILOT CONTROL ORIFICE DISK DIAMETER MUST BE THE SAME AS THE MAIN CARTRIDGE VALVE ORIFICE PLUG DIAMETER.

| MAIN CARTRIDGE VALVE | ORIFICE PLUG DIAMETER | | |
|-----------------------|-----------------------|------|-----------|
| | 800 | 1200 | 1800 2000 |
| NSR, HSR, HSH, & HSLD | .040 | .040 | .040 |
| NSPR, HSPR, & HSPR | .032 | .032 | .040 |
| NSVR, & HSPVR | .032 | | |

| MODULE | CARTRIDGE VALVE | CARTRIDGE CATALOG FACE NO. | CARTRIDGE SEAL KIT |
|--------|-----------------|----------------------------|--------------------|
| /3/ | HSLR602-P-XX-X | DS 8250 B2.1 | HSSK-600-0 |
| | HSSVC-604-XX | DS 80152 C1.1 | HSSK-600-1 |
| /30/ | HSLR602-P-XX-X | DS 8250 B2.1 | HSSK-600-0 |
| | HSSVC-604-XX | DS 80152 C1.1 | HSSK-600-1 |

* DESIGN SERIES SUBJECT TO CHANGE. NEW SERIES WILL BE FUNCTIONALLY AND PHYSICALLY INTERCHANGEABLE.

SOLENOID CURRENT RATINGS

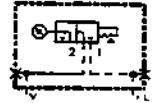
| OPERATOR | VOLTS AC | AMPERES | |
|----------|----------|-----------------|----------------|
| | | 60 HZ | 50 HZ |
| 0 | 115 | INRUSH HOLDING | INRUSH HOLDING |
| | | 1.70 .45 | 1.80 .52 |
| 1 | 230 | INRUSH HOLDING | INRUSH HOLDING |
| | | .65 .22 | .80 .26 |
| OPERATOR | VOLTS DC | AMPERES HOLDING | |
| | | 2 | 3 |
| 2 | 12 | 3.50 | |
| | | 1.25 | |
| 3 | 24 | 1.1 | |
| | | 1.1 | |
| 4 | 220 | 1.1 | |
| | | 1.1 | |
| 5 | 125 | 1.1 | |
| | | 1.1 | |

- NOTES:**
- 5000 PSI [345 BAR] MAXIMUM SERVICE PRESSURE
 - MAXIMUM RECOMMENDED STACKING SCREW TORQUE, 150 IN.-LBS. [16.89 N-M] FOR MULTIPLE STACKING OF MODULES. BOTTOM MODULE STACKING SCREWS TO BE TORQUED TO 150 IN.-LBS. [16.89 N-M]. FOR EACH SUBSEQUENT MODULE, REDUCE TORQUE BY 5 IN.-LBS. [0.56 N-M].
 - FOR REPLACEMENT BOLT KIT ORDER: HSSK-PCM-D
 - FOR REPLACEMENT MODULE SEAL KIT ORDER: HSSK-PCM-A

INCHES [mm]

501914HS

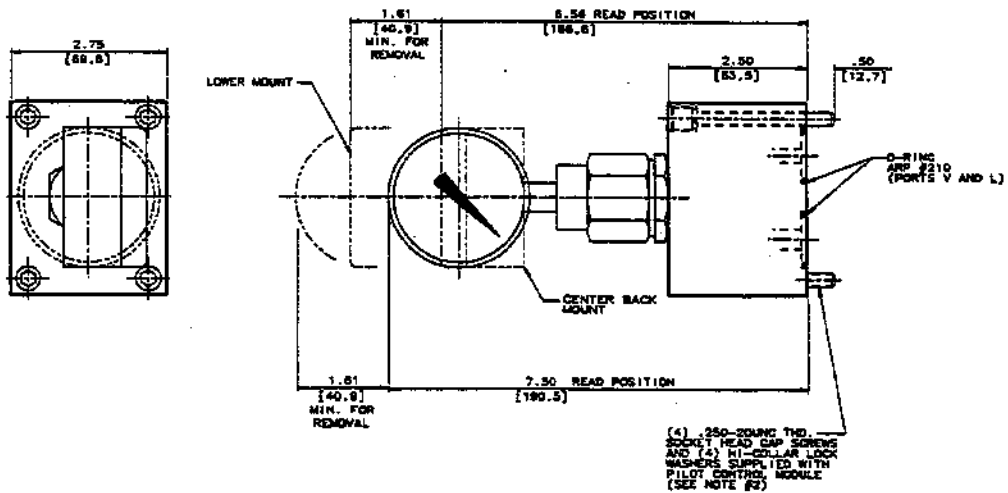
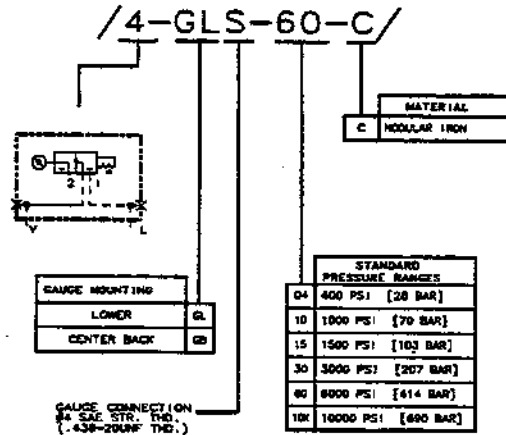
SERIES 601-M



Data Sheet

Pilot Control Module, Pull Out to Read Gauge, Series

PILOT CONTROL WHEN ORDERING AS A LOOSE ITEM



| MODULE | CARTRIDGE VALVE | CARTRIDGE CATALOG PAGE NO. | CARTRIDGE SEAL KIT |
|--------|-----------------|----------------------------|--------------------|
| /4/ | HSP77600-GLS-NK | DS 64950 CH.1 | HSSK-600-E |

* DESIGN SERIES SUBJECT TO CHANGE. NEW SERIES WILL BE FUNCTIONALLY AND PHYSICALLY INTERCHANGEABLE.

NOTES:

- 1) 3000 PSI [345 BAR] MAXIMUM SERVICE PRESSURE
- 2) MAXIMUM RECOMMENDED SOCKET HEAD CAP SCREW TORQUE: 87 IN.-LBS. [9.63 N-M]
- 3) WORKING PRESSURE SHOULD BE LIMITED TO SIZE OF DIAL RANGE: 3000 PSI [345 BAR] MAXIMUM.
- 4) GAUGES ARE DUAL CALIBRATED IN PSI AND BAR.
- 5) FOR REPLACEMENT BOLT KIT ORDER: HSSK-PCB-G
- 6) FOR REPLACEMENT MODULE SEAL KIT ORDER: HSSK-PCB-A

INCHES
[mm]

501915HS

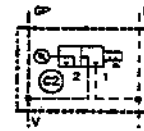
Telephone: (414) 327-1700
Fax: (414) 327-0532

OILGEAR
2300 So. 51st. Street
Milwaukee, WI USA 53219

Reissued: Nov., 1995

DS 85100-D.400

SERIES 601-M

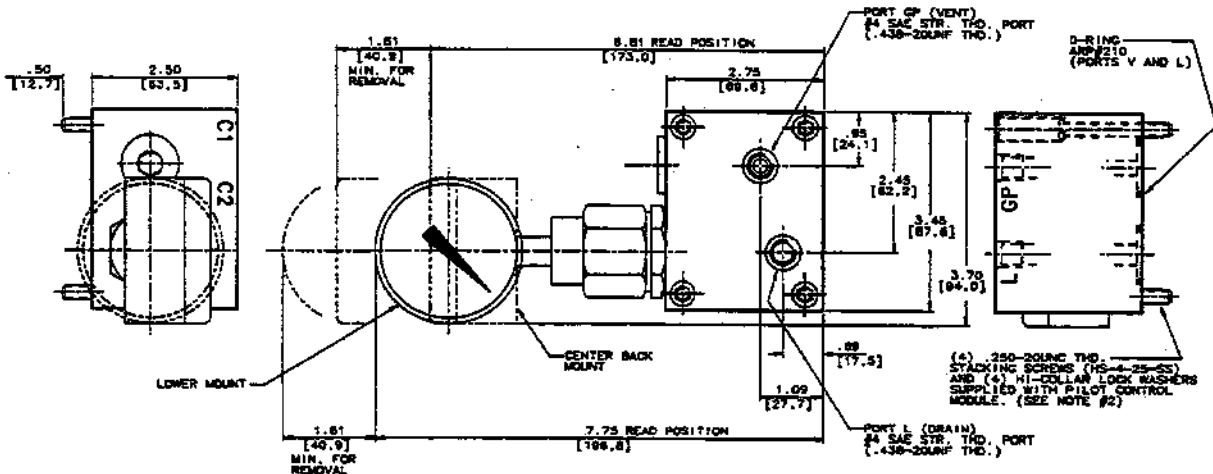
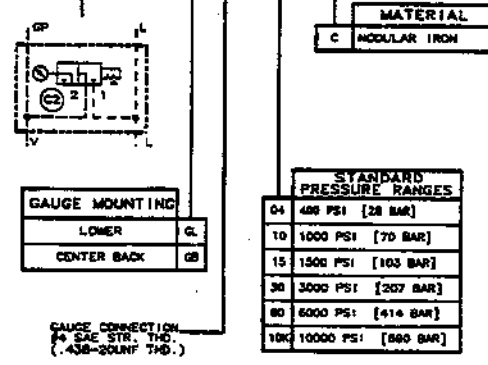


Data Sheet

Pilot Control Module, Pull to Read Gauge Parallel

PILOT CONTROL WHEN ORDERING AS A LOOSE ITEM

/4M-GLS-60-C/



| MODULE | CARTRIDGE VALVE | CARTRIDGE CATALOG PAGE NO. | CARTRIDGE SEAL KIT |
|--------|-----------------|----------------------------|--------------------|
| /4M/ | HSPTR600-GLS-XX | DS4820 C131 | HSSK-600-E |

* DESIGN SERIES SUBJECT TO CHANGE. NEW SERIES WILL BE FUNCTIONALLY AND PHYSICALLY INTERCHANGEABLE.

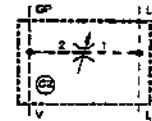
NOTES:

- 5000 PSI [345 BAR] MAXIMUM SERVICE PRESSURE.
- MAXIMUM RECOMMENDED STACKING SCREW TORQUE, 130 IN.-LBS. [14.89 N-M] FOR MULTIPLE STACKING OF MODULES. BOTTOM MODULE STACKING SCREWS TO BE TORQUED TO 130 IN.-LBS. [14.89 N-M]. FOR EACH SUBSEQUENT MODULE, REDUCE TORQUE BY 3 IN.-LBS. [0.36 N-M].
- WORKING PRESSURE SHOULD BE LIMITED TO 60% OF DIAL RANGE, 5000 PSI [345 BAR] MAXIMUM.
- GAUGES ARE DUAL CALIBRATED IN PSI AND BAR.
- FOR REPLACEMENT BOLT KIT ORDER: HSSK-PCM-D
- FOR REPLACEMENT MODULE SEAL KIT ORDER: HSSK-PCM-A

INCHES
[mm]

501916HS

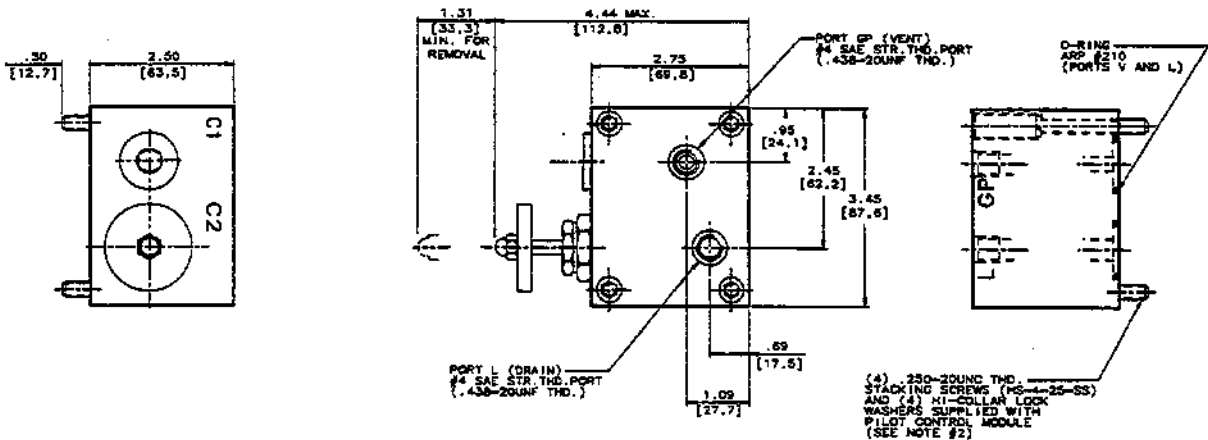
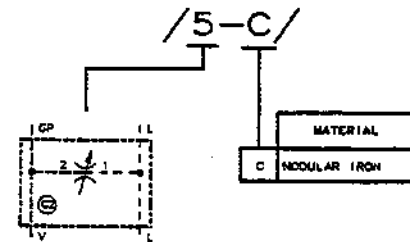
SERIES 601-M



Data Sheet

Pilot Control Module, Needle Valve

PILOT CONTROL WHEN ORDERING AS A LOOSE ITEM



| MODULE | CARTRIDGE VALVE | CARTRIDGE PAGE NO. | CARTRIDGE SEAL KIT |
|--------|-----------------|--------------------|--------------------|
| /5/ | HSN600 | DS 84150 A1.1 | HSSK-600-P |

* DESIGN SERIES SUBJECT TO CHANGE. NEW SERIES WILL BE FUNCTIONALLY AND PHYSICALLY INTERCHANGEABLE.

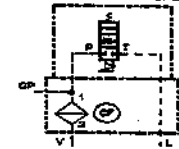
NOTES:

- 1) 5000 PSI [345 BAR] MAXIMUM SERVICE PRESSURE
- 2) MAXIMUM RECOMMENDED STACKING SCREW TORQUE, 130 IN.-LBS. [14.89 N-M] FOR MULTIPLE STACKING OF MODULES. BOTTOM MODULE STACKING SCREWS TO BE TORQUED TO 130 IN.-LBS. [14.89 N-M]. FOR EACH SUBSEQUENT MODULE, REDUCE TORQUE BY 5 IN.-LBS. [0.56 N-M].
- 3) FOR REPLACEMENT BOLT KIT ORDER : HSK-POM-D
- 4) FOR REPLACEMENT MODULE SEAL KIT ORDER : HSK-POM-A

INCHES
[mm]

501917HS

Series 601-M

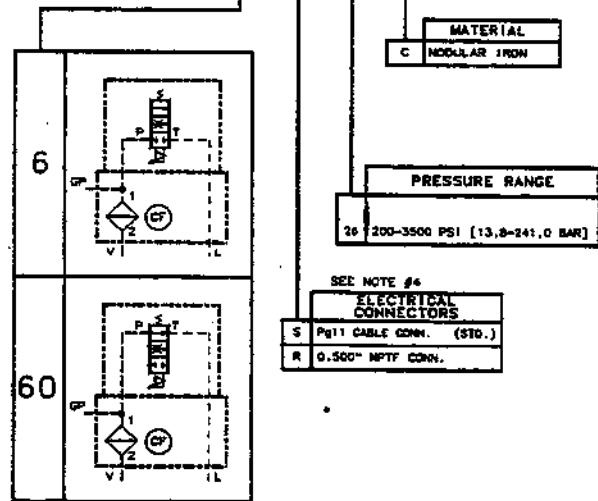


Data Sheet

Pilot Control Module, Proportional Pressure Control (P²C)

PILOT CONTROL WHEN ORDERING AS A LOOSE ITEM

/60-S-15-C/

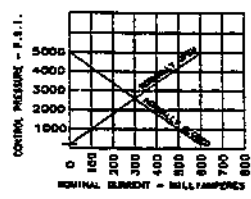
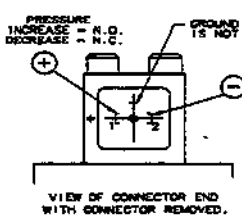
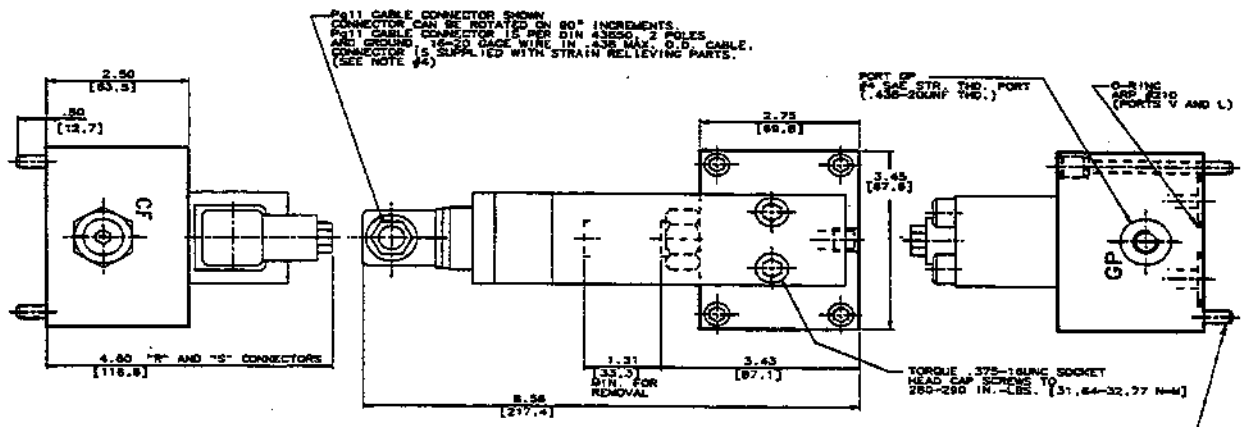


| MATERIAL | |
|----------|--------------|
| C | MODULAR IRON |

| PRESSURE RANGE | |
|----------------|-------------------------------|
| 26 | 200-3500 PSI [13.8-241.0 BAR] |

SEE NOTE #4

| ELECTRICAL CONNECTORS | |
|-----------------------|-------------------------|
| S | Pg11 CABLE CONN. (STD.) |
| R | 0.500" NPTF CONN. |



(4) .250-20UNC THD SOCKET HEAD CAP SCREWS AND (4) #10-32UNC X .500" BUSHINGS SUPPLIED WITH PILOT CONTROL MODULE (SEE NOTE #2)

- PERFORMANCE DATA**
- 1) OPERATING VOLTAGE: 24 VOLTS D.C.
 - 2) HYSTERESIS: LESS THAN 5%
 - 3) COIL RESISTANCE: 24 OHMS NOMINAL AT 68°F. (20°C.)
 - 4) FLUID: HYDRAULIC (WITH 40 MICRON FILTRATION) OPERATING TEMPERATURE 140°F. (60°C.)
 - 5) VALVE BODY IS STEEL. ENVELOPE PRESSURE RATINGS: "P" PORT - 5000 P.S.I. "T" PORT - 2 P.S.I.
 - 6) TANK PORT MUST BE CONNECTED DIRECTLY TO TANK AND BELOW FLUID LEVEL.
- NOTE: BACK PRESSURE OR FLUCTUATION OF PRESSURE IN TANK LINE WILL REFLECT ON CONTROLLED PRESSURE.

| MODULE | CARTRIDGE VALVE | CARTRIDGE CATALOG PAGE NO. | CARTRIDGE SEAL KIT |
|-----------|-----------------|----------------------------|--------------------|
| 6/ & /60/ | HSCF600-40 | DS 8492 C15.1 | PKSK-600-W |

DESIGN SERIES SUBJECT TO CHANGE. NEW SERIES WILL BE FUNCTIONALLY AND PHYSICALLY INTERCHANGEABLE.

- NOTES:**
- 1) 5000 PSI [345 BAR] MAXIMUM SERVICE PRESSURE.
 - 2) MAXIMUM RECOMMENDED SOCKET HEAD CAP SCREW TORQUE: 27 IN.-LBS. [0.83 N-m]
 - 3) FOR REPLACEMENT FUSE ELEMENT (40 MICRON) ORDER: HSCF-E-40
 - 4) RECOMMENDED CABLE: BELDEN #8720 (2 CONDUCTOR SHIELDED BIFIL CABLE. #14 AWG WIRE. CHROME VINYL JACKET) OR EQUIVALENT WITH #18 AWG WIRE MINIMUM.
 - 5) FOR REPLACEMENT BOLT KIT ORDER: HSKK-POM-E
 - 6) FOR REPLACEMENT MODULE SEAL KIT ORDER: HSKK-POM-E

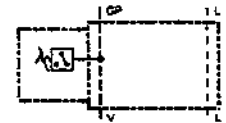
501918HS

Telephone: (414) 327-1700
 Fax: (414) 327-0532

OILGEAR
 2300 So. 51st. Street
 Milwaukee, WI USA 53219

Reissued: Nov., 1995
DS 85100-D.600

Series 601-M

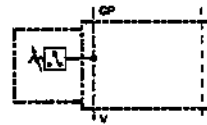


Data Sheet

Pilot Control Module, Single Pressure Switch

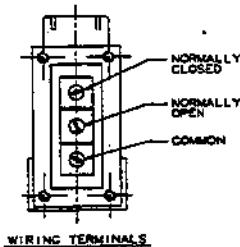
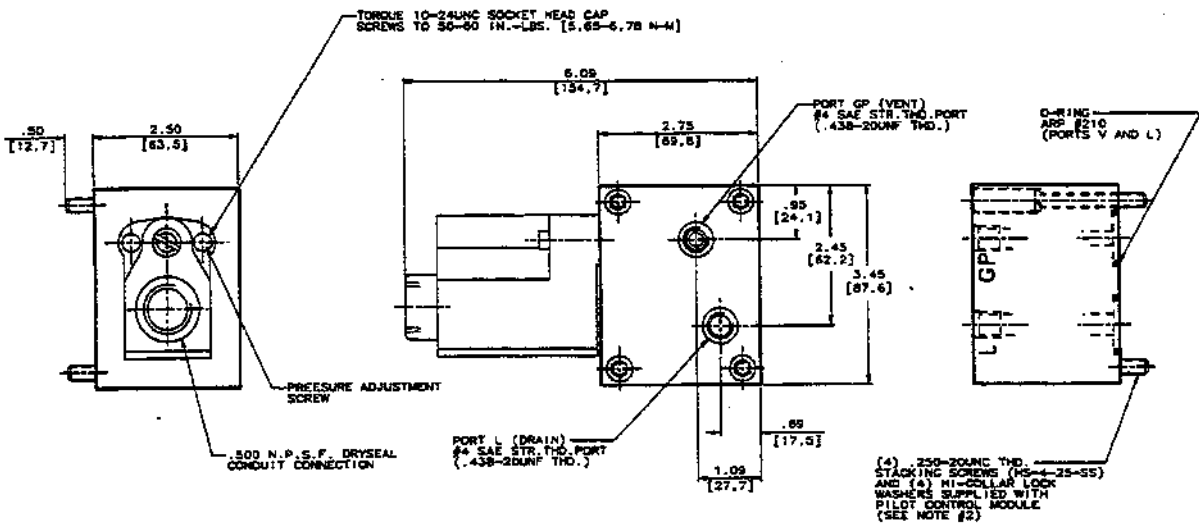
PILOT CONTROL WHEN ORDERING AS A LOOSE ITEM

/8-8-C/



| MATERIAL | |
|----------|--------------|
| C | MODULAR IRON |

| SPRING RANGE | |
|--------------|---------------------------------|
| 1 | 50-100 PSI [3.4-6.9 BAR] |
| 2 | 100-300 PSI [6.9-20.7 BAR] |
| 3 | 300-900 PSI [20.7-34.5 BAR] |
| 4 | 500-1000 PSI [34.5-69.0 BAR] |
| 5 | 1000-2000 PSI [69.0-138.0 BAR] |
| 6 | 2000-3000 PSI [138.0-207.0 BAR] |
| 7 | 3000-4000 PSI [207.0-276.0 BAR] |
| 8 | 4000-5000 PSI [276.0-345.0 BAR] |



ELECTRICAL DATA

SINGLE POLE, DOUBLE THROW ELEMENT, U.L. RATED FOR 15 AMPS AT 125, 250, OR 460 VOLTS A.C.; .50 AMP AT 125 VOLTS D.C.; .25 AMP AT 250 VOLTS D.C. ELECTRICAL LEADS ARE NOT FURNISHED WITH THE MODULE.

NOTES:

- 1) 5000 PSI [345 BAR] MAXIMUM SERVICE PRESSURE
- 2) MAXIMUM RECOMMENDED STACKING SCREW TORQUE, 130 IN.-LBS. [14.69 N-M] FOR MULTIPLE STACKING OF MODULES. BOTTOM MODULE STACKING SCREWS TO BE TORQUED TO 130 IN.-LBS. [14.69 N-M]. FOR EACH SUBSEQUENT MODULE, REDUCE TORQUE BY 5 IN.-LBS. [0.56 N-M].
- 3) FOR REPLACEMENT BOLT KIT ORDER : HSBK-PM-F
- 4) FOR REPLACEMENT MODULE SEAL KIT ORDER : HSSK-PM-F

INCHES
[mm]

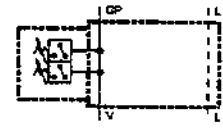
501919HS

Telephone: (414) 327-1700
Fax: (414) 327-0532

OILGEAR
2300 So. 51st. Street
Milwaukee, WI USA 53219

Reissued: Nov., 1995
DS 85100-D.800

SERIES 601-M

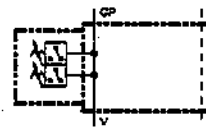


Data Sheet

Pilot Control Module, Dual Pressure Switches

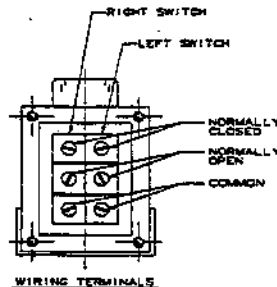
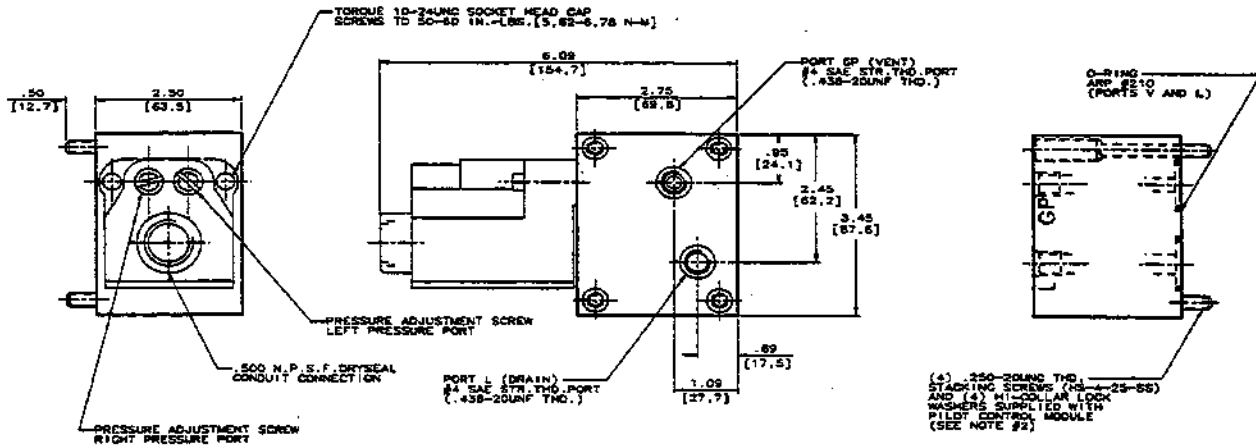
PILOT CONTROL WHEN ORDERING AS A LOOSE ITEM

/9-88-C/



MATERIAL
C MODULAR IRON

| SPRING RANGE LEFT PORT | | SPRING RANGE RIGHT PORT | |
|---------------------------------|---|-------------------------|---------------------------------|
| 50-100 PSI [3.4-6.9 BAR] | 1 | 1 | 50-100 PSI [3.4-6.9 BAR] |
| 100-300 PSI [6.9-20.7 BAR] | 2 | 2 | 100-300 PSI [6.9-20.7 BAR] |
| 300-500 PSI [20.7-34.5 BAR] | 3 | 3 | 300-500 PSI [20.7-34.5 BAR] |
| 500-1000 PSI [34.5-69.0 BAR] | 4 | 4 | 500-1000 PSI [34.5-69.0 BAR] |
| 1000-2000 PSI [69.0-138.0 BAR] | 5 | 5 | 1000-2000 PSI [69.0-138.0 BAR] |
| 2000-3000 PSI [138.0-207.0 BAR] | 6 | 6 | 2000-3000 PSI [138.0-207.0 BAR] |
| 3000-4000 PSI [207.0-276.0 BAR] | 7 | 7 | 3000-4000 PSI [207.0-276.0 BAR] |
| 4000-5000 PSI [276.0-345.0 BAR] | 8 | 8 | 4000-5000 PSI [276.0-345.0 BAR] |



ELECTRICAL DATA

SINGLE POLE, DOUBLE THROW ELEMENT, U.L. RATED FOR 15 AMPS AT 125, 250, OR 480 VOLTS A.C.; .50 AMP AT 125 VOLTS D.C.; .25 AMP AT 250 VOLTS D.C. ELECTRICAL LEADS ARE NOT FURNISHED WITH THE MODULE.

NOTES:

- 5000 PSI [345 BAR] MAXIMUM SERVICE PRESSURE
- MAXIMUM RECOMMENDED STACKING SCREW TORQUE, 130 IN.-LBS. [14.69 N-M] FOR MULTIPLE STACKING OF MODULES. BOTTOM MODULE STACKING SCREWS TO BE TORQUED TO 130 IN.-LBS. [14.69 N-M]. FOR EACH SUBSEQUENT MODULE, REDUCE TORQUE BY 5 IN.-LBS. [0.56 N-M]
- FOR REPLACEMENT BOLT KIT ORDER: HSKN-PCM-F
- FOR REPLACEMENT MODULE SEAL KIT ORDER: HSKN-PCM-F

INCHES
[mm]

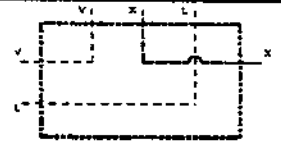
501920HS

Telephone: (414) 327-1700
Fax: (414) 327-0532

OILGEAR
2300 So. 51st. Street
Milwaukee, WI USA 53219

Reissued: Nov., 1995
DS 85100-D.900

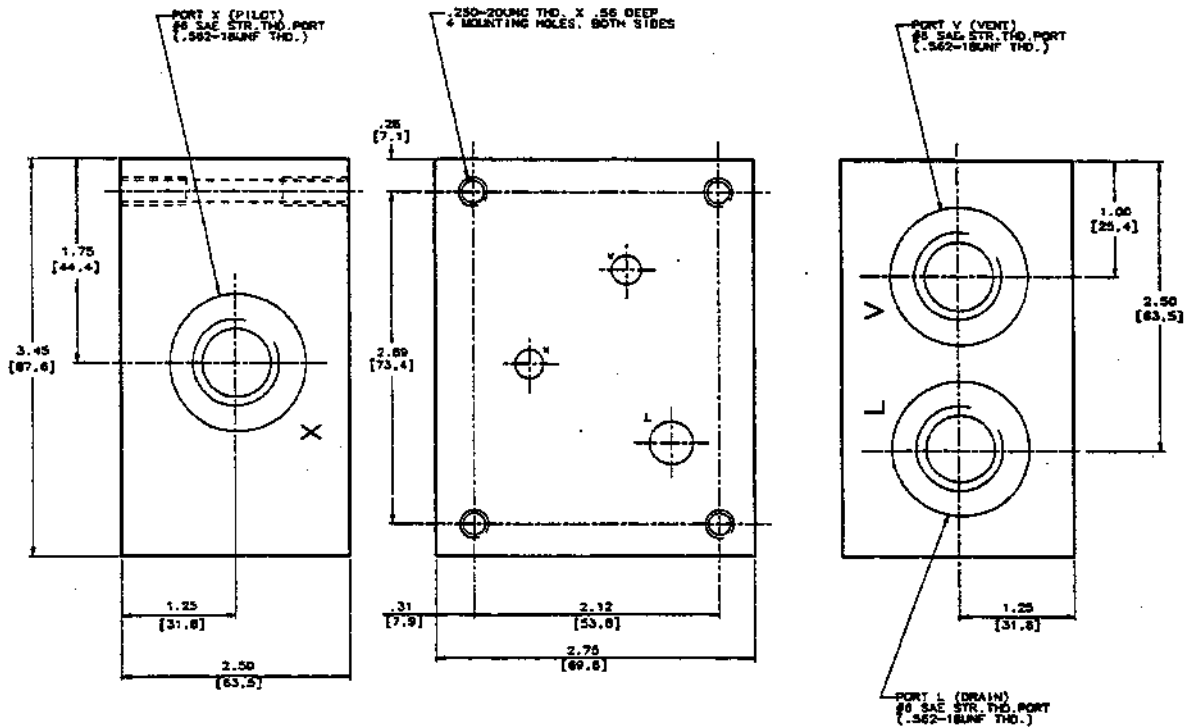
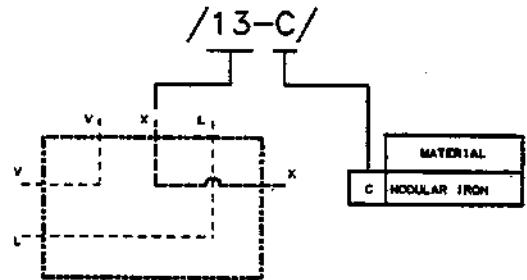
SERIES 601-M



Data Sheet

Pilot Control Module, Subplate

PILOT CONTROL WHEN ORDERING AS A LOOSE ITEM



NOTES:

- 1) 5000 PSI [345 BAR] MAXIMUM SERVICE PRESSURE.

INCHES
[mm]

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