INDEX TO SCREW-IN
FLOW CONTROL CARTRIDGE VALVES
(DS 84150 - DS 84550)

* Adjustable flow in one direction, free flow in the other.
** Unadjustable reverse flow possible under some circumstances.

Oilgear

VALVE, SCREW-IN CARTRIDGE

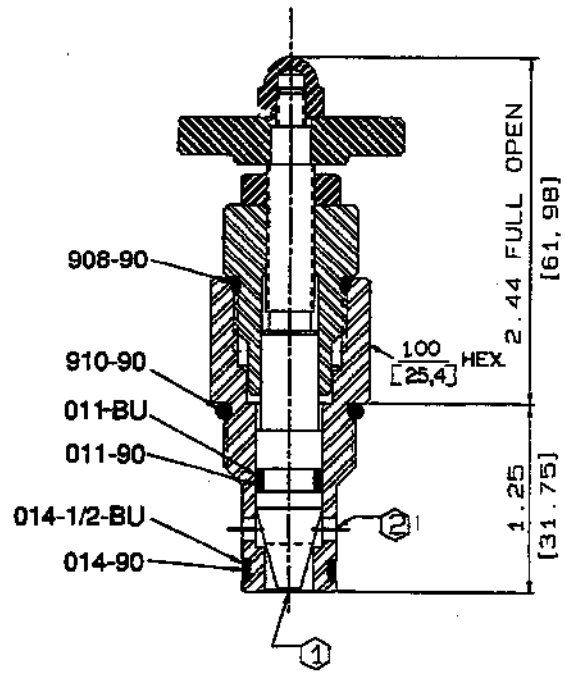
17 US GPM △100 PSI
(64,4 LPM △ 6,9 Bar)

HSN601

ENGINEERING | 1

Data Sheet — **Needle Valve**

400921HS



Form Tool Cavity
HS-600-2

Line Mount Block
BB1-08-C

Application

A HSN valve is a non-pressure compensated adjustable orifice used for meter-out, or meter-in circuits to control the fluid flow volume in either direction (bi-directional).

Operation

The adjusting knob is attached to the main spool. Turning the knob counterclockwise moves main spool outward and allows flow to be metered between ports 1 and 2. The amount of flow increases as spool is turned out (orifice area increases). Knob can be turned clockwise to stop flow.

Features

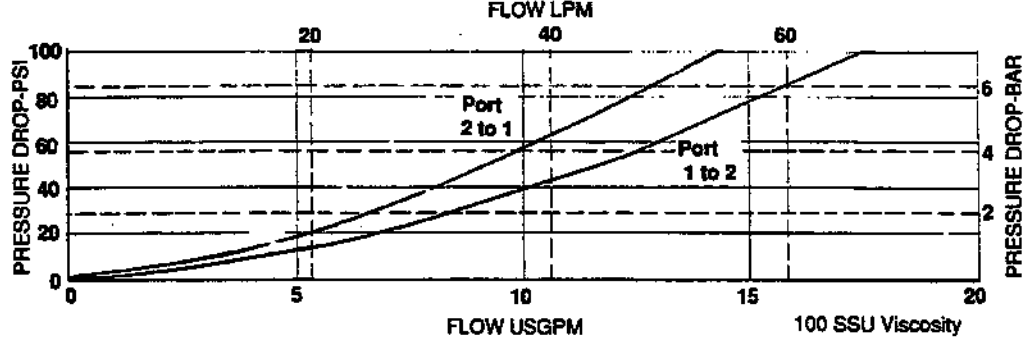
The HSN Cartridge Valve is constructed of steel parts. Operating parts are hardened and ground as required. Turning effort (torque) is mininal at all pressures. The cartridge is designed for easy service and field repair.

Specifications

Nominal flow to - 17 GPM (64,4 LPM)
Maximum operating pressure - 5000 psi (345 bar)
Rotation, full shut to open - 6-1/4 turns
Torque to adjust valve when under maximum pressure - 16.0 in. lbs. (1806 Nmm)
Viscosity range - 27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals - Viton
Operating temperature - 40°F to 350°F (-39,6°C to 175°C)
Filtration - Maintain SAE Class 6, ISO 18/15
Seal Kit - HSSK-600-AD

Performance Curve

(Curves are for maximum controlled flow at 3.5 turns open)



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OILGEAR
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Reissued: Nov., 1995

DS 84150-A1.1

Oilgear

VALVE, SCREW-IN CARTRIDGE

17 US GPM △100 PSI
(64,4 LPM △ 6,9 Bar)

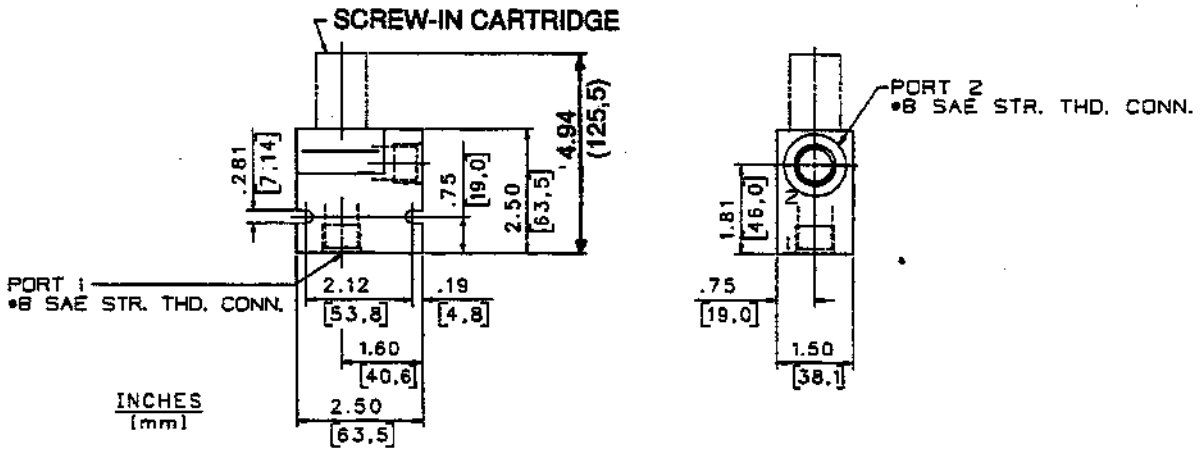
HSN601

ENGINEERING | 2

Data Sheet — Needle Valve

Line Mounted Specifications

HSN601/BB1-08-C



How To Order

Screw-in Cartridge Only

HSN601

Cartridge With Line Mount Block

HSN601/BB1-08-C

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Milwaukee, WI USA 53219

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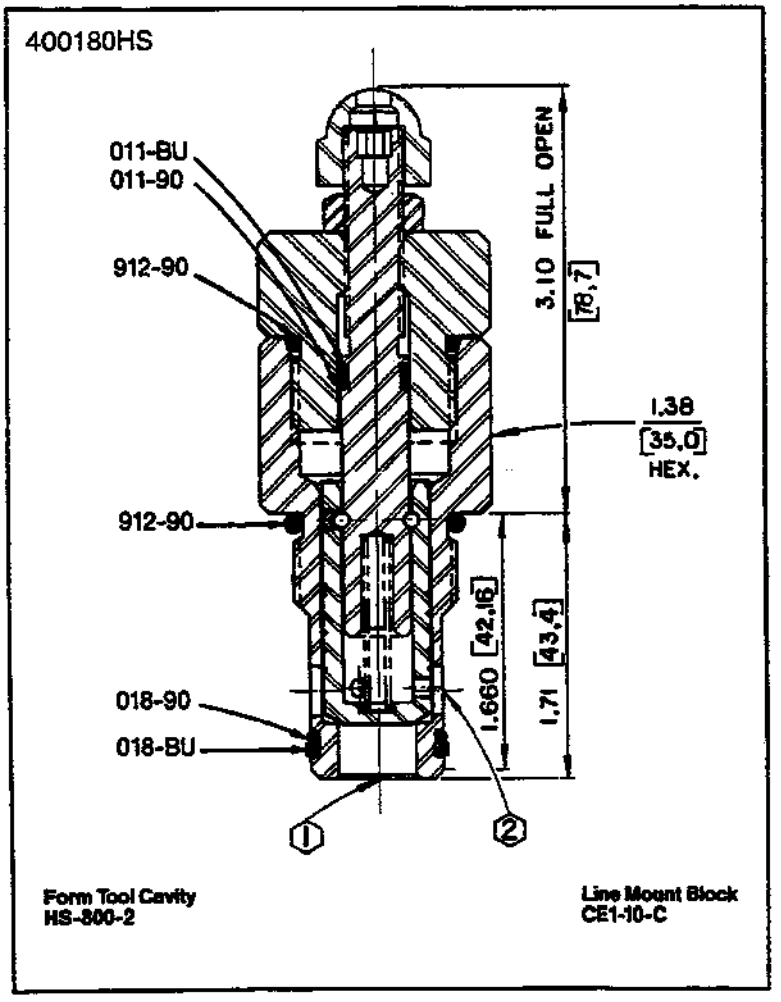
VALVE, SCREW-IN CARTRIDGE

35 GPM △ 100 PSI
(132,7 LPM △ 6,9 Bar)

HSN801

ENGINEERING | 1

Data Sheet — Needle Valve



Application

A HSN valve is a non-pressure compensated adjustable orifice used for meter-out, or meter-in circuits to control the fluid flow volume in either direction (bi-directional).

Operation

The adjustable screw is attached to the main spool. Turning the screw outward allows flow to be metered between ports 1 and 2. The amount of flow increases as the screw is turned out (orifice area increases). Screw can be turned inward to stop flow.

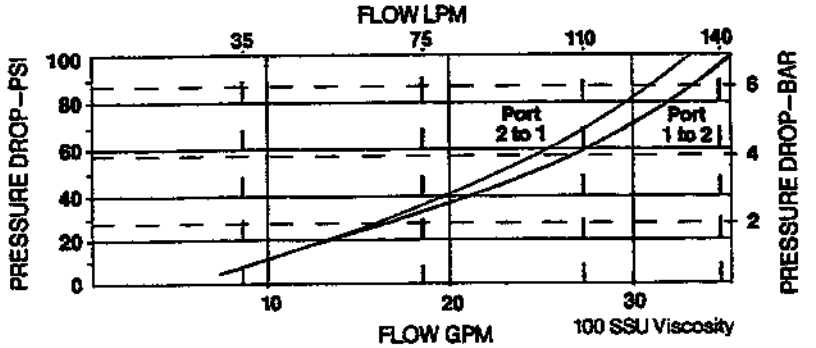
Features

The HSN Cartridge Valve is constructed of steel parts. Operating parts are hardened and ground as required. Turning effort (torque) is minimal at all pressures. The cartridge is designed for easy service and field repair.

Specifications

Nominal flow to—35 gpm (132,7 lpm)
Maximum operating pressure—
5000 psi (345 bar)
Rotation, full shut to open—8 turns
Torque to adjust valve when under maximum pressure—30 in. lb. (3390 Nmm)
Viscosity range—27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals—Viton
Operating temperature—-40°F to 350°F
(-39,6°C to 175°C)
Filtration—Maintain SAE Class 6, ISO 18/15
Seal kit—HSSK-800-B

Performance Curve



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DS 84150-A1.3

Oilgear

VALVE, SCREW-IN CARTRIDGE

35 GPM △ 100 PSI
(132,7 LPM △ 6,9 Bar)

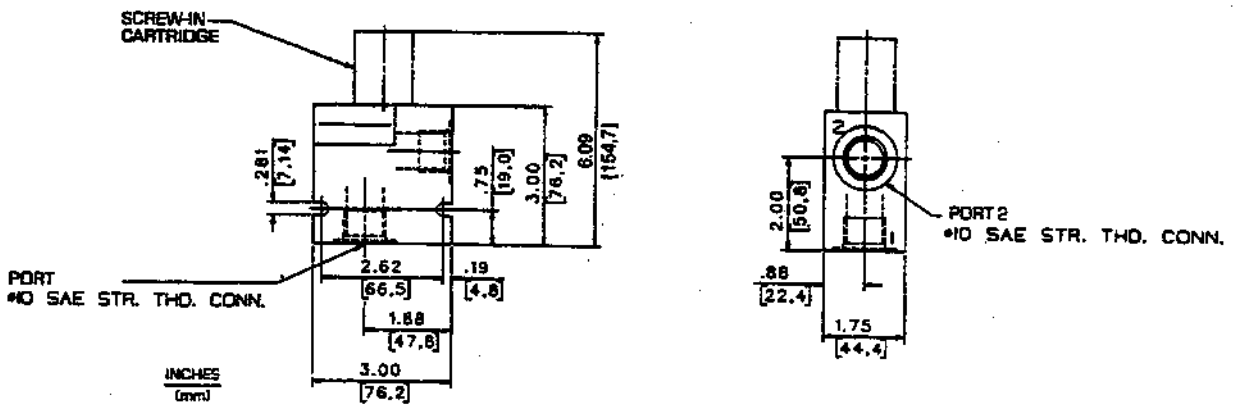
HSN801

ENGINEERING | 2

Data Sheet — Needle Valve

Line Mount Specifications

HSN801/CE1-10-C



How To Order

Screw-In Cartridge Only

HSN801

Cartridge With Line Mount Block

HSN801/CE1-10-C

OILGEAR
2300 So. 51st. Street
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Oilgear

VALVE, SCREW-IN CARTRIDGE

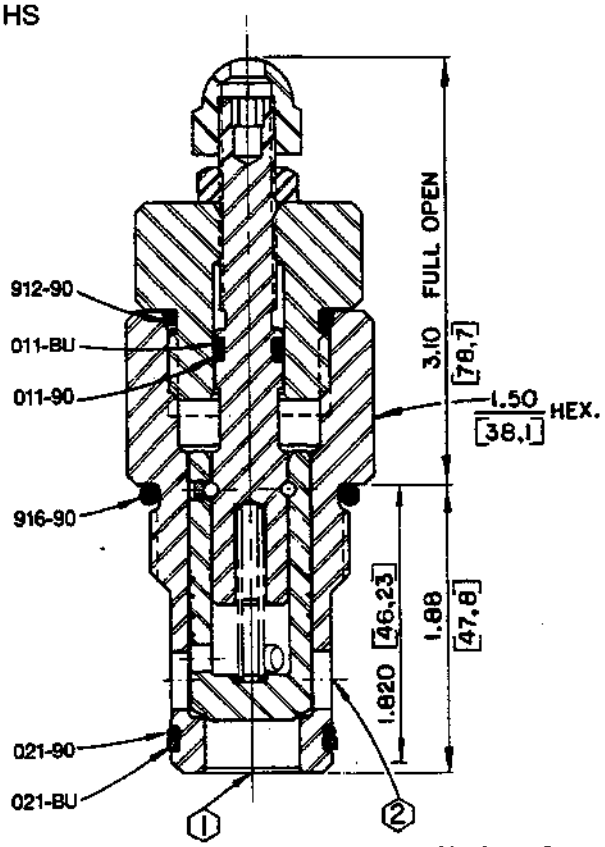
45 GPM △ 100 PSI
(170,5 LPM △ 6,9 Bar)

HSN1201

ENGINEERING | 1

Data Sheet — **Needle Valve**

400181HS



Form Tool Cavity
HS-1200-2

Line Mount Block
DP1-16-C

Application

A HSN valve is a non-pressure compensated adjustable orifice used for meter-out, or meter-in circuits to control the fluid flow volume in either direction (bi-directional).

Operation

The adjustable screw is attached to the main spool. Turning the screw outward allows flow to be metered between ports 1 and 2. The amount of flow increases as the screw is turned out (orifice area increases). Screw can be turned inward to stop flow.

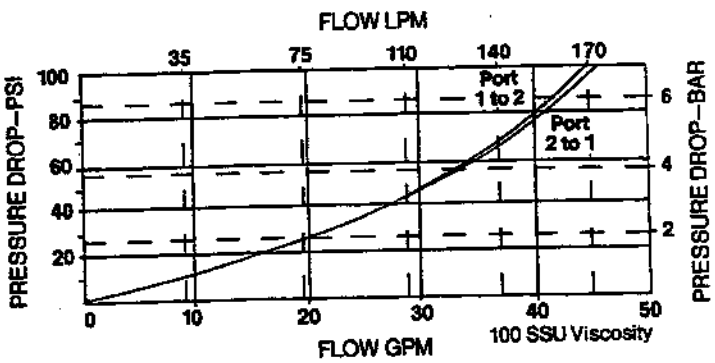
Features

The HSN Cartridge Valve is constructed of steel parts. Operating parts are hardened and ground as required. Turning effort (torque) is minimal at all pressures. The cartridge is designed for easy service and field repair.

Specifications

Nominal flow to-45 gpm (170,5 lpm)
Maximum-operating pressure-
5000 psi (345 bar)
Rotation, full shut to open-8 turns
Torque to adjust valve when under maximum pressure-70 in. lb. (7910 Nmm)
Torque to fully close valve when under maximum pressure - 230 in. lb. (26,000 Nmm)
Viscosity range- 27- 30 SSU at 100°F
35-2000 SSU at 100°F
Seals-Viton
Operating temperature—40°F to 350°F (-39,6°C to 175°C)
Filtration-Maintain SAE Class 6, ISO 18/15
Seal kit-HSSK-1200-B

Performance Curve



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Reissued: Nov., 1995

DS 84150-A1.4A

Oilgear

VALVE, SCREW-IN CARTRIDGE

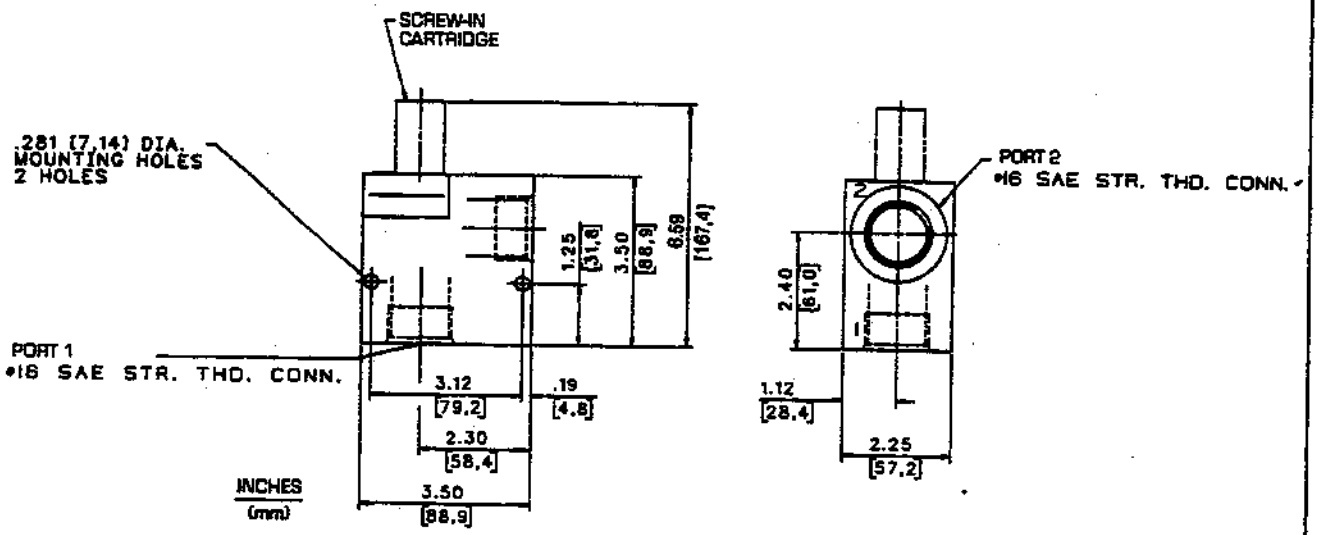
45 GPM △ 100 PSI
(170,5 LPM △ 6,9 Bar)

HSN1201

ENGINEERING | 2

Data Sheet — **Needle Valve**

HSN1201/DP1-16-C



How To Order

Screw-In Cartridge Only

HSN1201

Cartridge With Line Mount Block

HSN1201/DP1-16-C

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Oilgear

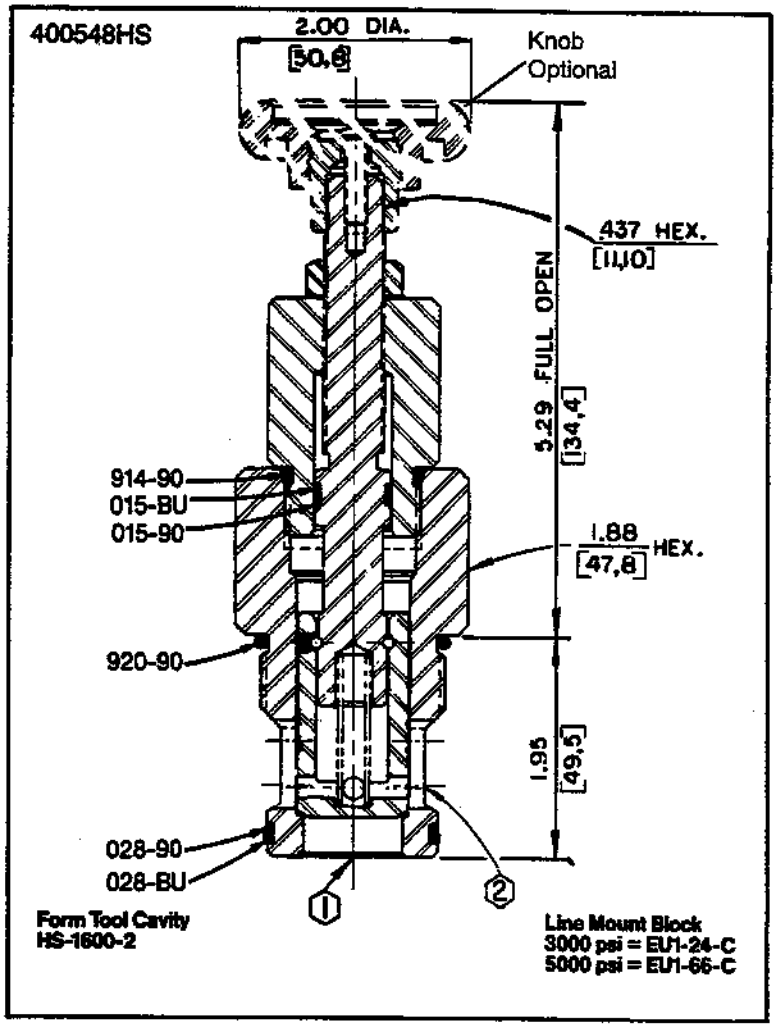
VALVE, SCREW-IN CARTRIDGE

90 GPM △ 100 PSI
(341,1 LPM △ 6,9 Bar)

HSN1602

ENGINEERING | 1

Data Sheet — **Needle Valve**



Application

A HSN valve is a non-pressure compensated adjustable orifice used for meter-out, or meter-in circuits to control the fluid flow volume in either direction (bi-directional).

Operation

The adjustable screw is attached to the main spool. Turning the screw outward allows flow to be metered between ports 1 and 2. The amount of flow increases as the screw is turned out (orifice area increases). Screw can be turned inward to stop flow.

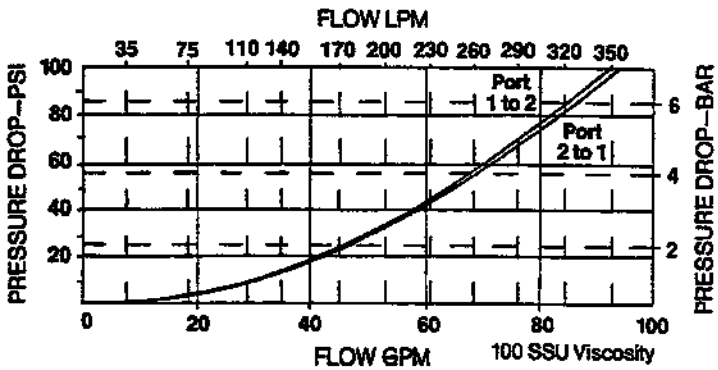
Features

The HSN Cartridge Valve is constructed of steel parts. Operating parts are hardened and ground as required. Turning effort (torque) is minimal at all pressures. The cartridge is designed for easy service and field repair.

Specifications

Nominal flow to - 90 gpm (341,1 lpm)
Maximum operating pressure - 5000 psi (345 bar)
Rotation, full shut to open - 13 turns
Torque to adjust valve when under maximum pressure- 110 in. lb. (12430 Nmm)
Torque to fully close valve when under maximum pressure - 360 in. lb. (40680 Nmm).
Viscosity range - 27-30 SSU at 100°F (-39,6° C to 175°C)
Filtration- Maintain SAE Class 6, ISO 18/15
Seal kit-HSSK-1600-B

Performance Curve



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OILGEAR
2300 So. 51st. Street
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Reissued: Nov., 1995

DS 84150-A1.5A

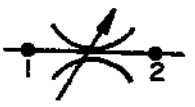
Oilgear

VALVE, SCREW-IN CARTRIDGE

90 GPM △ 100 PSI
(341,1 LPM △ 6,9 Bar)

HSN1602

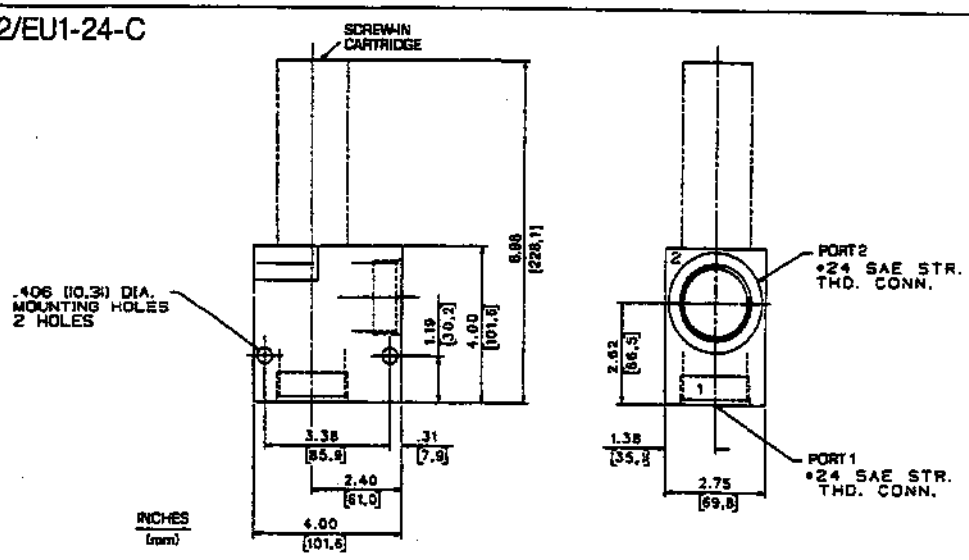
ENGINEERING | 2



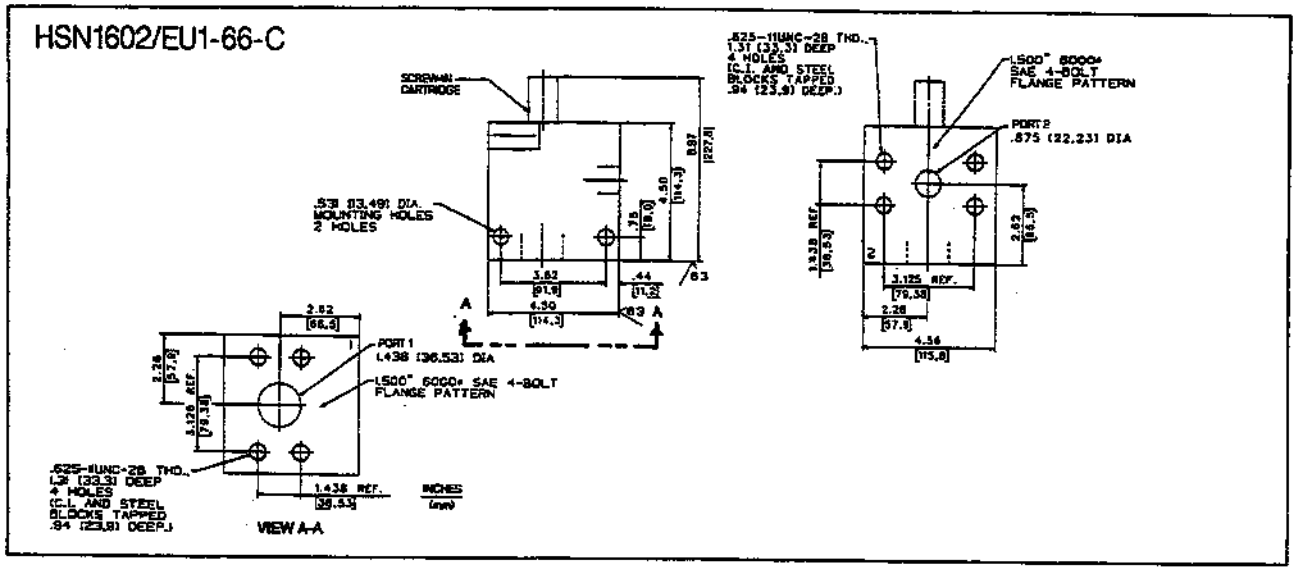
Data Sheet — **Needle Valve**

Line Mount Specifications

HSN1602/EU1-24-C



HSN1602/EU1-66-C



How To Order

Screw-In Cartridge Only

HSN1602

Cartridge With Line Mount Block

3000 psi (207 bar) service pressure
HSN1602/EU1-24-C

5000 psi (345 bar) service pressure
HSN1602/EU1-66-C

Reissued: Nov., 1995
DS 84150-A1.5A

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Oilgear

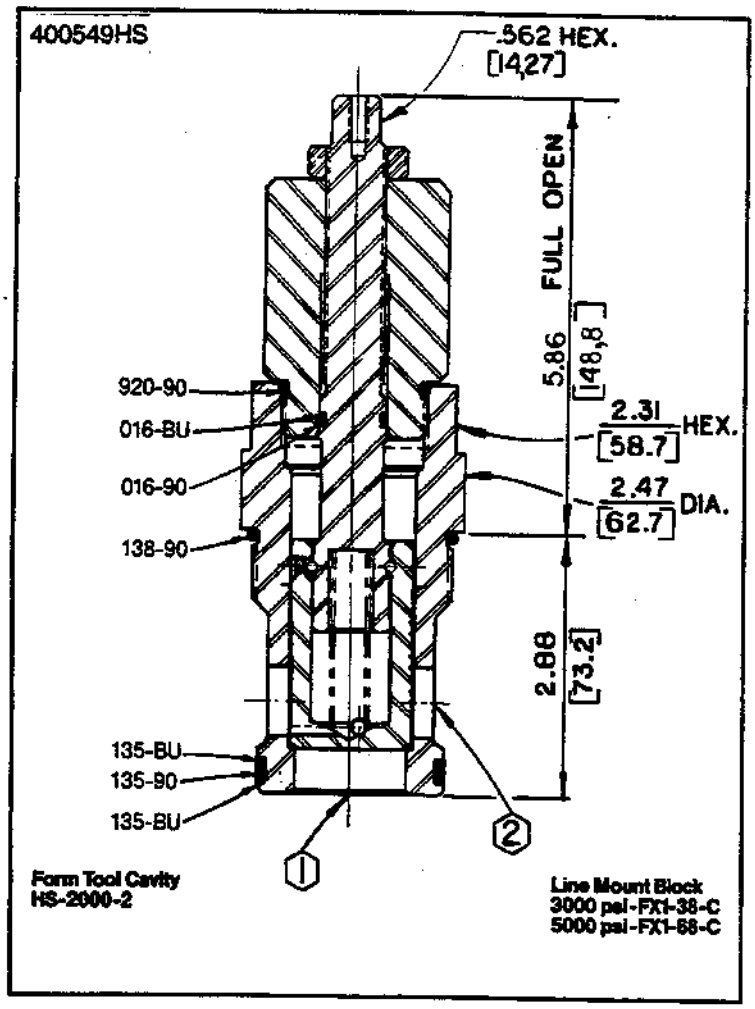
VALVE, SCREW-IN CARTRIDGE

225 GPM Δ 100 PSI
(852,8 LPM Δ 6,9 Bar)

HSN2002

ENGINEERING | 1

Data Sheet — **Needle Valve**



Application

A HSN valve is a non-pressure compensated adjustable orifice used for meter-out, or meter-in circuits to control the fluid flow volume in either direction (bi-directional).

Operation

The adjustable screw is attached to the main spool. Turning the screw outward allows flow to be metered between ports 1 and 2. The amount of flow increases as the screw is turned out (orifice area increases). Screw can be turned inward to stop flow.

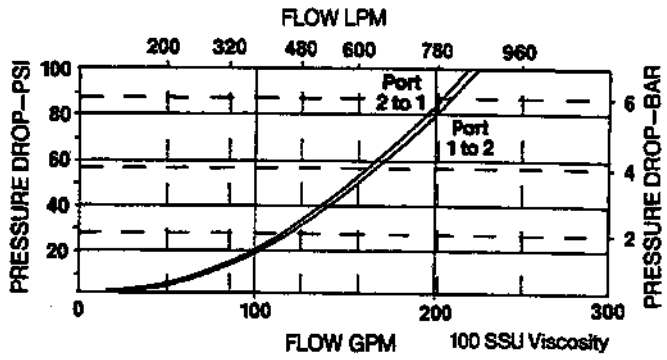
Features

The HSN Cartridge Valve is constructed of steel parts. Operating parts are hardened and ground as required. Turning effort (torque) is minimal at all pressures. The cartridge is designed for easy service and field repair.

Specifications

Nominal flow to-225 gpm (852,8 lpm)
Maximum operating pressure-
5000 psi (345 bar)
Rotation, full shut to open-27 turns
Torque to adjust valve when under maximum pressure-500 in. lb. (56500 Nmm)
Torque to fully close valve when under maximum pressure - 1636 in. lb. (254550 Nmm)
Viscosity range-27-30 SSU at 100°F
35- 2000 SSU at 100°F
Seals-Viton
Operating temperature--40°F to 350°F (-39,6°C to 175°C)
Filtration-Maintain SAE Class 6, ISO 18/15
Seal kit-HSSK-2000-B

Performance Curve



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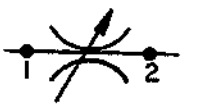
Reissued: Nov, 1995

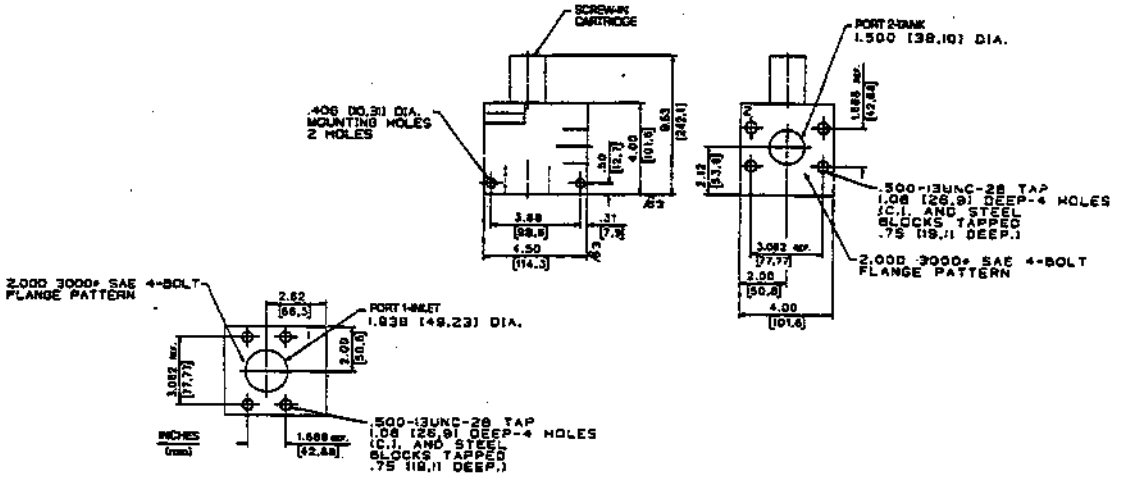
DS 84150-A1.6A



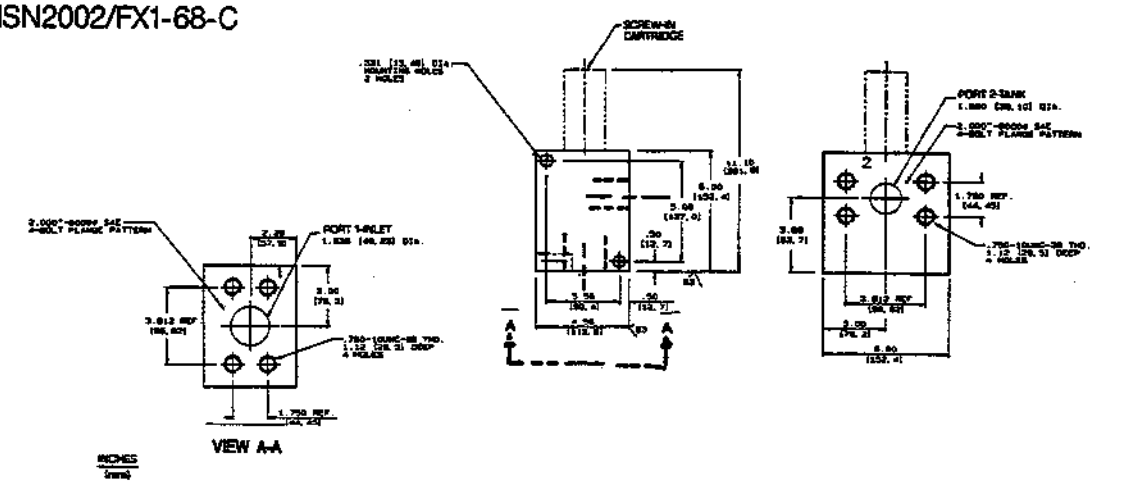
Data Sheet — Needle Valve

Line Mount Specifications

HSN2002/FX1-38-C



HSN2002/FX1-68-C



How To Order

Screw-in Cartridge Only

HSN2002
HSN2002

Cartridge With Line Mount Block

HSN2002/FX1-38-C
3000 psi (207 bar) service pressure
HSN2002/FX1-68-C
5000 psi (345 bar) service pressure

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

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Oilgear

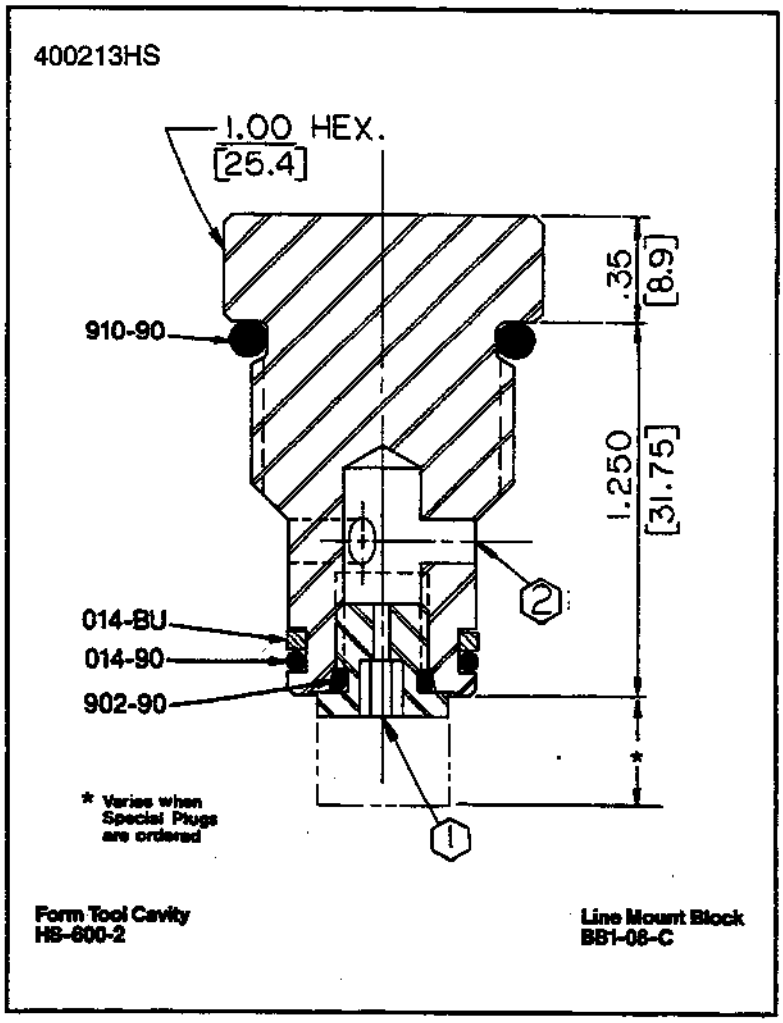
VALVE, SCREW-IN CARTRIDGE

12 GPM △ 100 PSI
(45,5 LPM △ 6,9 Bar)

HSFF600

ENGINEERING | 1

Data Sheet — **Fixed Flow Valve**



Application

The valve is a non-pressure compensated fixed flow orifice for precise control of flow in either direction.

Operation

Flow thru the cartridge valve is ported thru a fixed orifice to restrict the amount of flow.

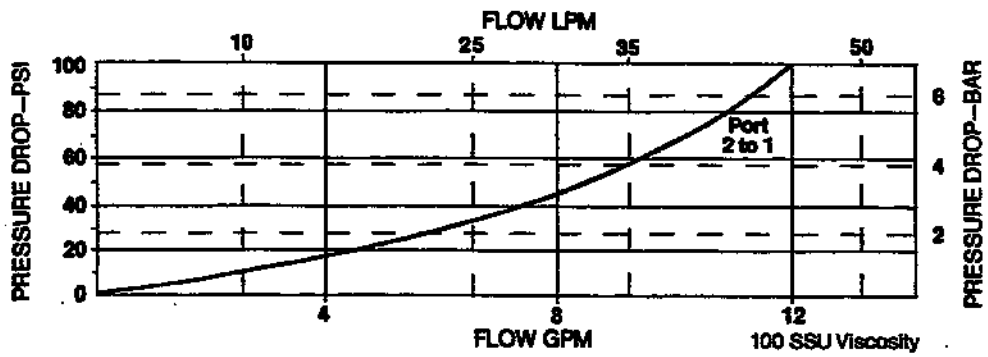
Features

Orifice size is easily changed by removal of cartridge and replacing the orifice plug. Flow variations due to temperature changes are minimized by sharp edge opening design.

Specifications

Nominal flow rating—Depends on orifice size selected.
Maximum operating pressure—5000 psi (345 bar)
Viscosity range—27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals—Viton
Operating temperature—-40°F to 350°F (-39,6°C to 175°C)
Filtration—Maintain SAE Class 6, ISO 18/15
Seal kit—HSSK-600-A

Performance Curve



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Milwaukee, WI USA 53219

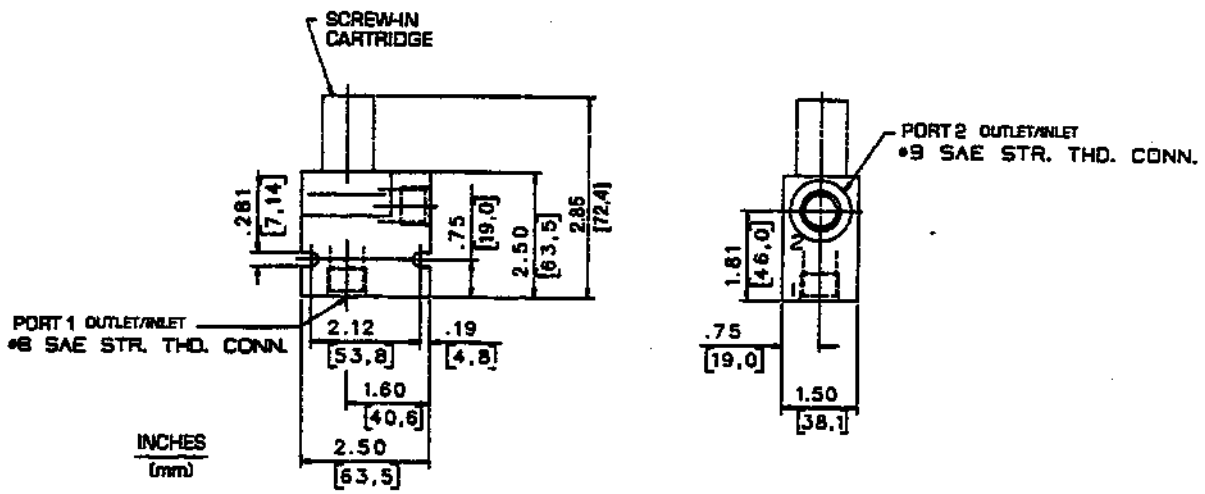
Reissued: Nov., 1995

DS 84160-A7.1

Data Sheet — Fixed Flow Valve

Line Mount Specifications

HSFF600/BB1-08-C



How To Order

Screw-In Cartridge Only

HSFF600-____

	Orifice Diameter
In.	State (in inches) Orifice diameter required in any standard drill diameter from .010" to .125."
.000	Solid plug.
.250	No plug.

Cartridge With Line Mount Block

HSFF600-__/BB1-08-C

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Milwaukee, WI USA 53219

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

Oilgear

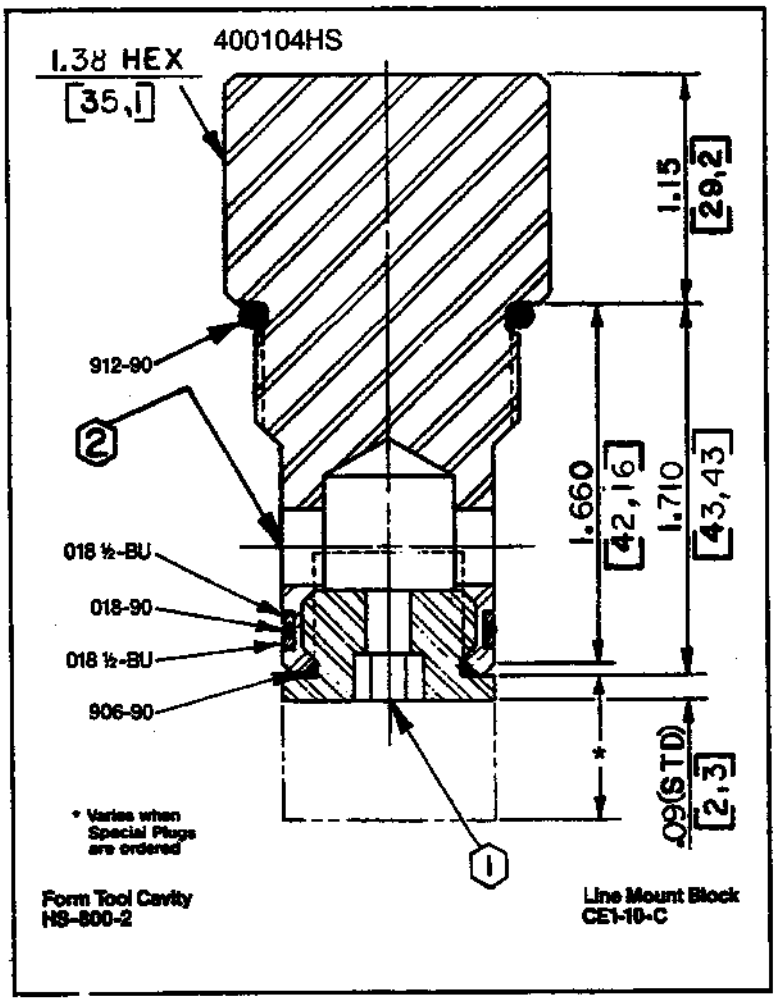
VALVE, SCREW-IN CARTRIDGE

40 GPM △ 100 PSI
(151,6 LPM △ 6,9 Bar)

HSFF800

ENGINEERING | 1

Data Sheet — **Fixed Flow Valve**



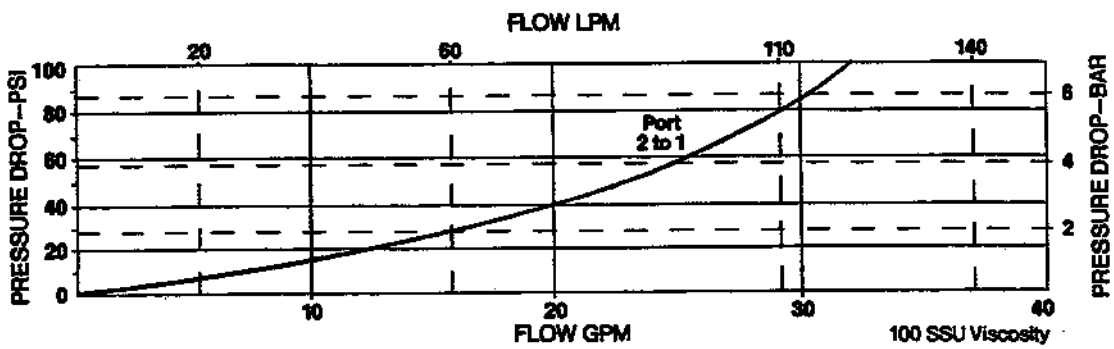
Application
The valve is a non-pressure compensated fixed flow orifice for precise control of flow in either direction.

Operation
Flow thru the cartridge valve is ported thru a fixed orifice to restrict the amount of flow.

Features
Orifice size is easily changed by removal of cartridge and replacing the orifice plug. Flow variations due to temperature changes are minimized by sharp edge opening design.

Specifications
Nominal flow rating--Depends on orifice size selected.
Maximum operating pressure--5000 psi (345 bar)
Viscosity range--27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals--Viton
Operating temperature---40°F to 350°F (-39,6°C to 175°C)
Filtration--Maintain SAE Class 6, ISO 18/15
Seal kit--HSSK-800-A

Performance Curve



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

Reissued: Nov., 1995

DS 84160-A7.2

Oilgear

VALVE, SCREW-IN CARTRIDGE

40 GPM △ 100 PSI
(151,6 LPM △ 6,9 Bar)

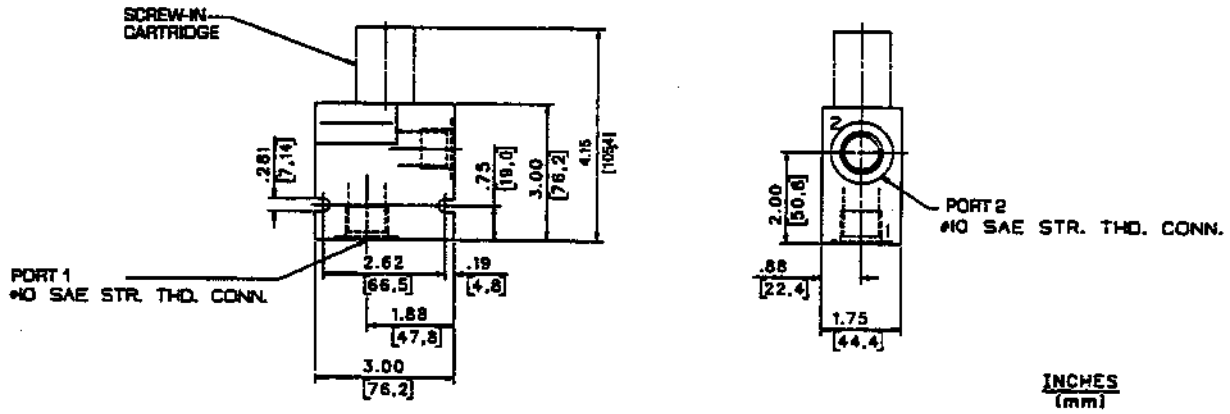
HSFF800

ENGINEERING | 2

Data Sheet — Fixed Flow Valve

Line Mount Specifications

HSFF800/CE1-10-C



How To Order

Screw-in Cartridge Only

HSFF800-____

	Orifice Diameter
in.	State (in inches) Orifice diameter required in any standard drill diameter from .010" to .250"
.000	Solid plug.
.500	No plug.

Cartridge With Line Mount Block

HSFF800-__/CE1-10-C

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

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

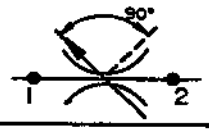
Oilgear

VALVE, SCREW-IN CARTRIDGE

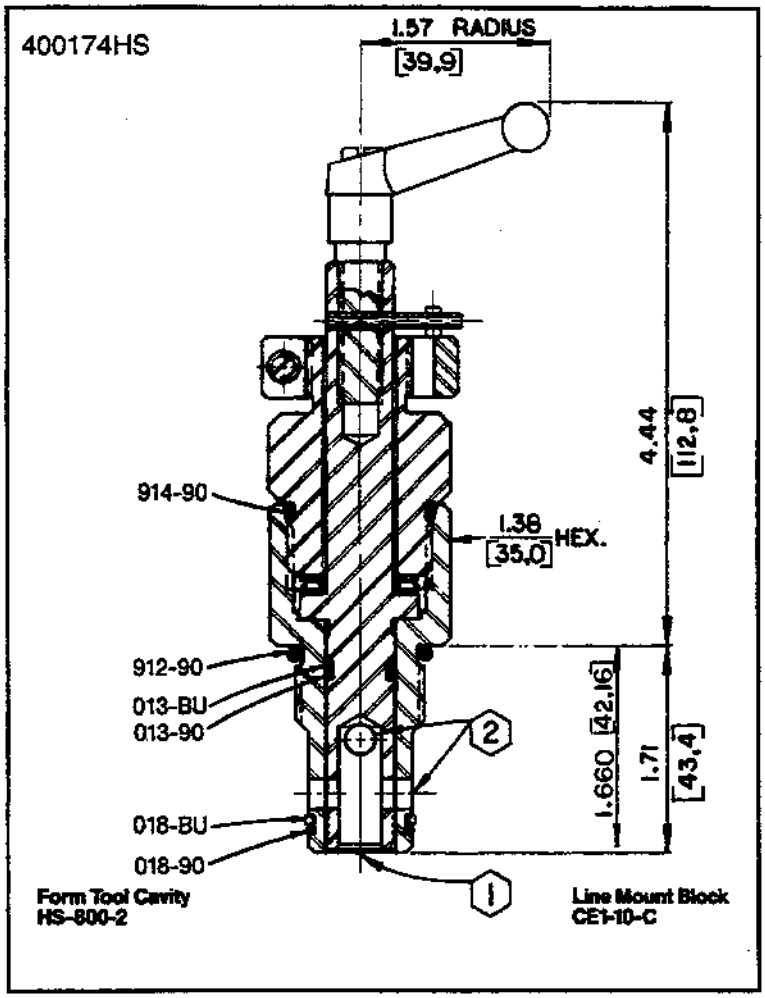
30 GPM △ 100 PSI
(113,7 LPM △ 6,9 Bar)

HSN800-90

ENGINEERING | 1



Data Sheet — **90° Shut-Off Valve**



Application

A HSN-90 valve is used to open (or close) one portion of the circuit to (or from) flow from another portion. Flow can be in either direction (bi-directional).

Operation

There are ports drilled thru the body and drilled thru the main spool. Rotating the handle 90° counter-clockwise aligns the ports and allows the flow between ports 1 and 2. Rotating the handle clockwise shuts off flow.

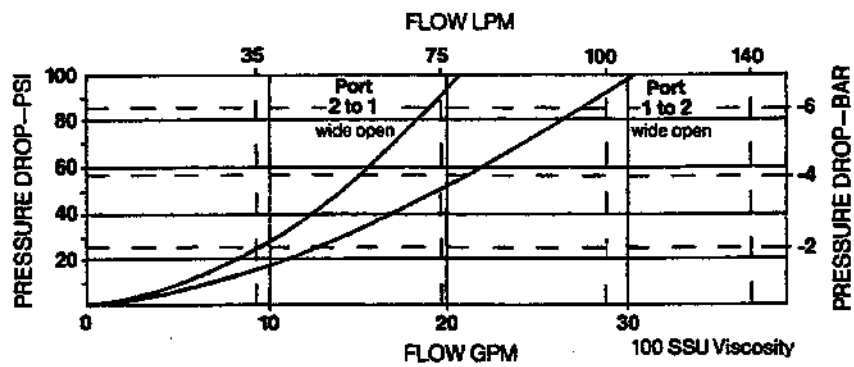
Features

The valve handle's position can be re-set in any position, after the valve has been installed, by simply lifting, rotating and releasing the handle. Design incorporates a roller thrust bearing to ensure low rotational torque to adjust the valve. The valve is constructed of steel parts and all operating parts are hardened and ground. The cartridge is designed for easy service and field repair.

Specifications

Rated flow—Ports 2 to 1 = 20 gpm (75,8 lpm)
Ports 1 to 2 = 30 gpm (113,7 lpm)
Maximum operating pressure—
5000 psi (345 bar)
Rotation, full close to open—¼ turn (90°)
Torque to adjust valve when under pressure—
(port 1 to 2) = 11.25 in. lb. (1271 Nmm)
(port 2 to 1) = 18.00 in. lb. (2034 Nmm)
Maximum shut-off leakage at rated pressure—
3 cipm (49,2 cm^3)
Viscosity range—27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals—Viton
Operating temperature—-40°F to 350°F
(-39,6°C to 175°C)
Filtration—Maintain SAE Class 6, ISO 18/15
Seal kit—HSSK-800-K

Performance Curve



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OILGEAR
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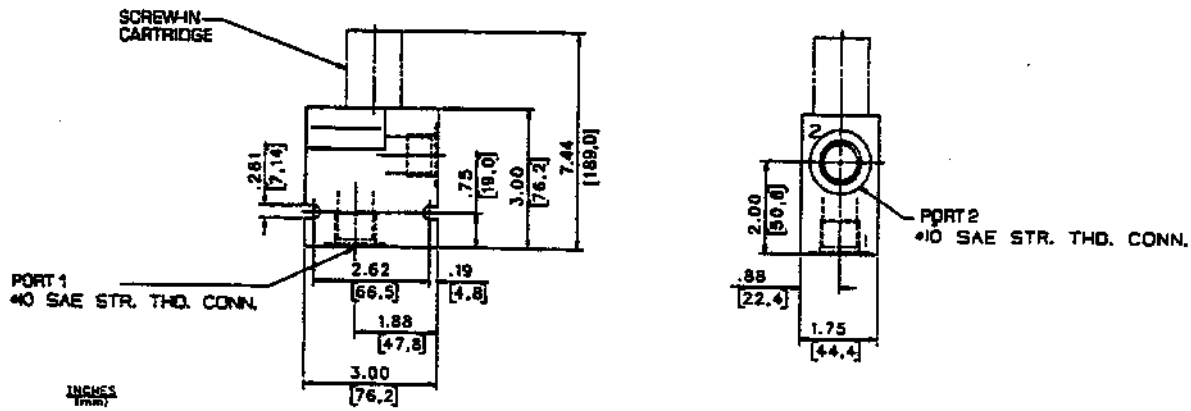
DS 84170-A2.2

Data Sheet — 90° Shut-Off Valve

Line Mount Specifications

HSN800-90/CE1-10-C



How To Order

Screw-in Cartridge Only

HSN800-90

Cartridge With Line Mount Block

HSN800-90/CE1-10-C

OILGEAR
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Oilgear

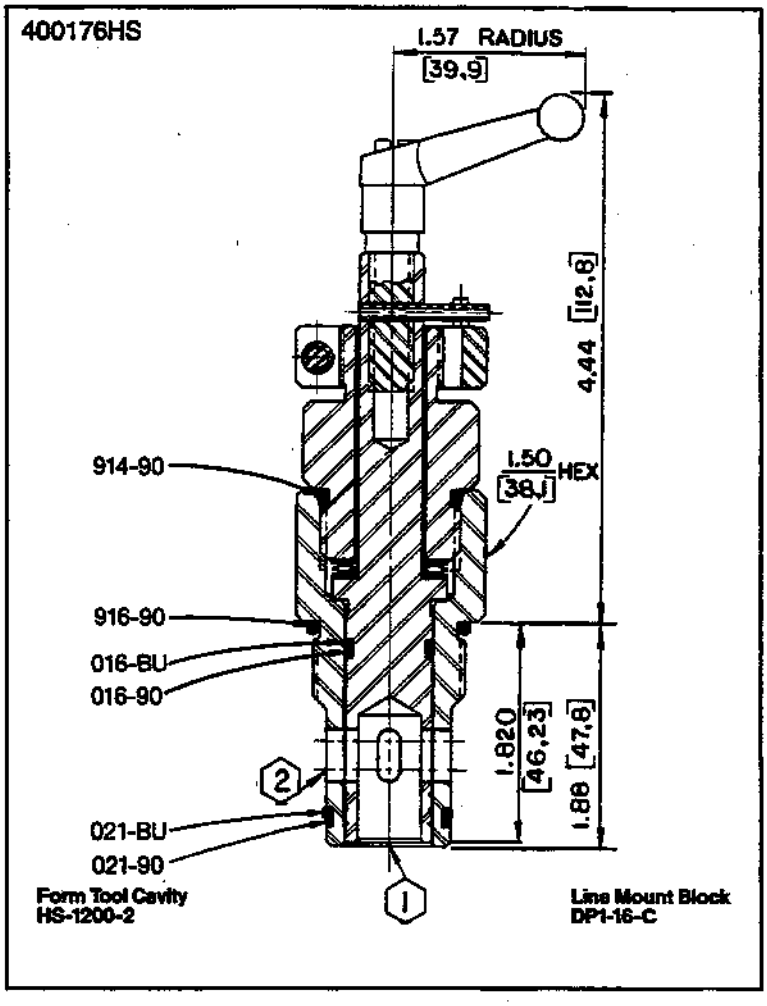
VALVE, SCREW-IN CARTRIDGE

HSN1200-45

ENGINEERING | 1

Data Sheet

45° Shut-Off Valve



Application

The HSN-45 valve is used to open (or close) one portion of the circuit (to or from) flow from (or to) another portion. Flow can be in either direction (bi-directional).

Operation

There are ports milled thru the body and milled thru the main spool. Rotating the handle 45° counter-clockwise aligns the ports and allows flow between ports 1 and 2. Rotating the handle clockwise shuts off flow.

Features

The valve handle position can be re-set in any position after the valve has been installed by simply lifting, rotating and releasing the handle. Design incorporates a roller thrust bearing to ensure the valve can be adjusted with low force. Valve is constructed of steel parts and operating parts are hardened and ground. Cartridge is designed for easy service and field repair.

Specifications

Maximum operating pressure—
5000 psi (345 bar)
Rotation, full close to open—⅛ turn (45°)
Torque to adjust valve when under maximum pressure—(port 1 to 2) = 24.0 in. lb. (2717 Nmm), (port 2 to 1) = 26.25 in. lb. (2966 Nmm)
Maximum shut-off leakage at rated pressure—
244 cipm (4002 cm^3)
Viscosity range—27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals—Viton
Operating temperature—-40°F to 350°F (-39,6°C to 175°C)
Filtration—Maintain SAE Class 6, ISO 18/15
Seal kit—HSSK-1200-G

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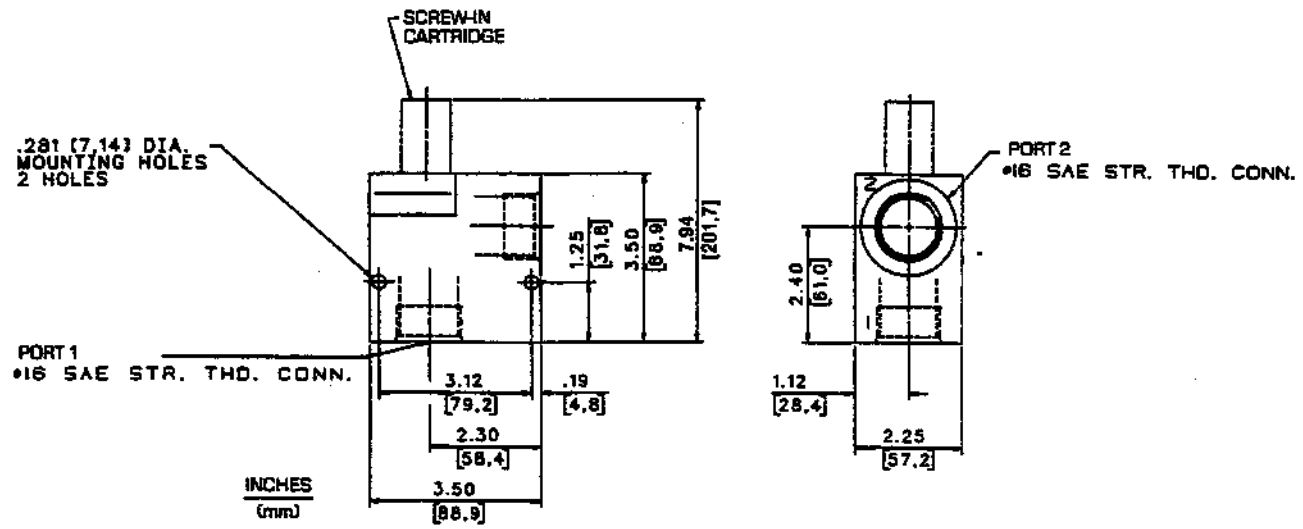
Reissued: Nov., 1995

DS 84170-A2.3A

Data Sheet — 45° Shut-Off Valve

Line Mount Specifications

HSN1200-45/DP1-16-C



How To Order

Screw-In Cartridge Only

HSN1200-45

Cartridge With Line Mount Block

HSN1200-45/DP1-16-C

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2300 So. 51st. Street
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Oilgear

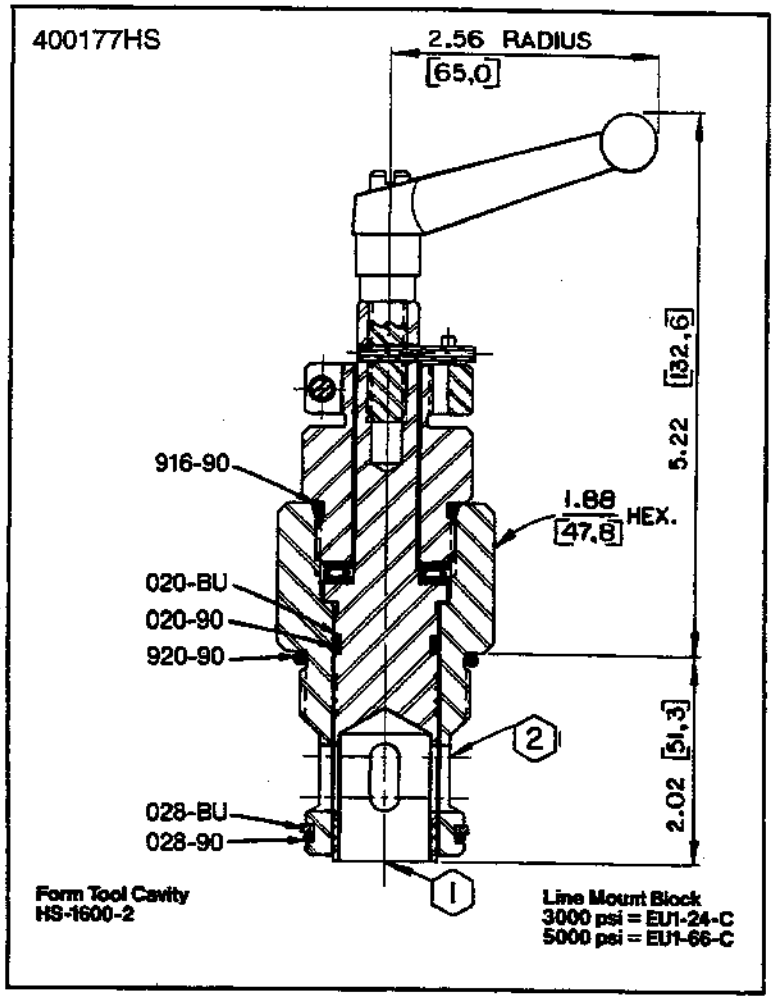
VALVE, SCREW-IN CARTRIDGE

100 GPM △ 100 PSI
(379 LPM △ 6,9 Bar)

HSN1600-45

ENGINEERING | 1

Data Sheet — **45° Shut-Off Valve**



Application

The HSN-45 valve is used to open (or close) one portion of the circuit (to or from) flow from (or to) another portion. Flow can be in either direction (bi-directional).

Operation

There are ports milled thru the body and milled thru the main spool. Rotating the handle 45° counter-clockwise aligns the ports and allows flow between ports 1 and 2. Rotating the handle clockwise shuts off flow.

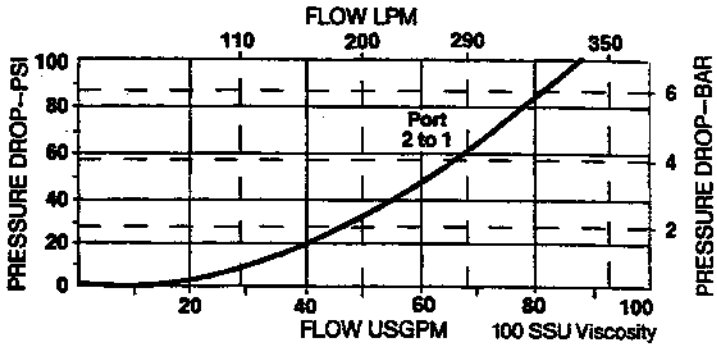
Features

The valve handle position can be re-set in any position after the valve has been installed by simply lifting, rotating and releasing the handle. Design incorporates a roller thrust bearing to ensure the valve can be adjusted with low force. Valve is constructed of steel parts and operating parts are hardened and ground. Cartridge is designed for easy service and field repair.

Specifications

Nominal flow to
(port 2 to 1)– 90 gpm (341 lpm)
(port 1 to 2)–100 gpm (349 lpm)
Maximum operating pressure–
5000 psi (345 bar)
Rotation, full close to open–⅛ turn (45°)
Torque to adjust valve when under maximum pressure–(port 1 to 2) = 63.75 in. lb. (7204 Nmm), (port 2 to 1) = 37.50 in. lb. (4238 Nmm)
Maximum shut-off leakage at rated pressure–260 cipm (4264 cm³)
Viscosity range–27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals–Viton
Operating temperature–-40°F to 350°F (-39,6°C to 175°C)
Filtration–Maintain SAE Class 6, ISO 18/15
Seal kit–HSSK-1600-G

Performance Curve



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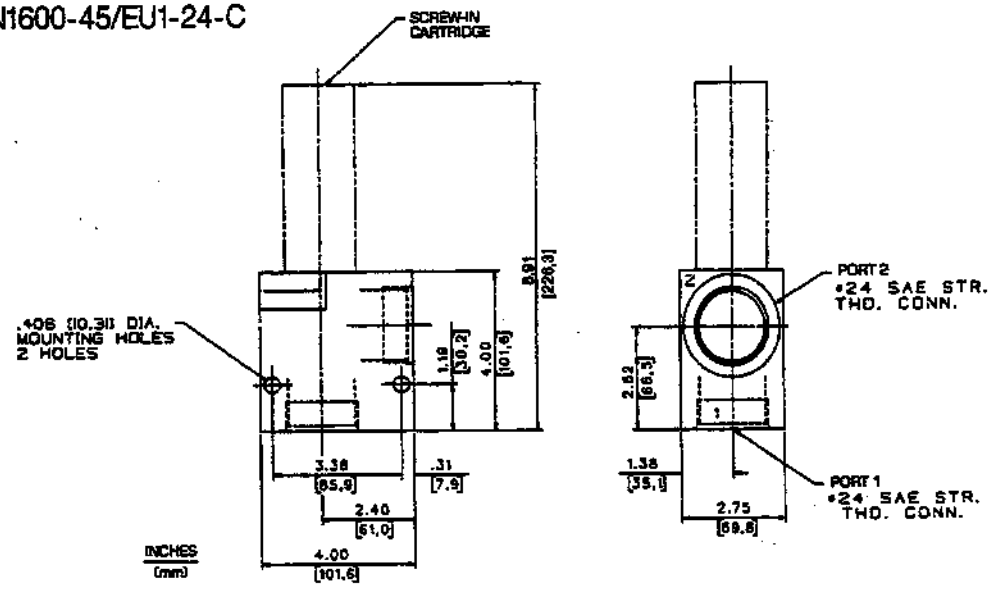
Reissued: Nov., 1995

DS 84170-A2.4

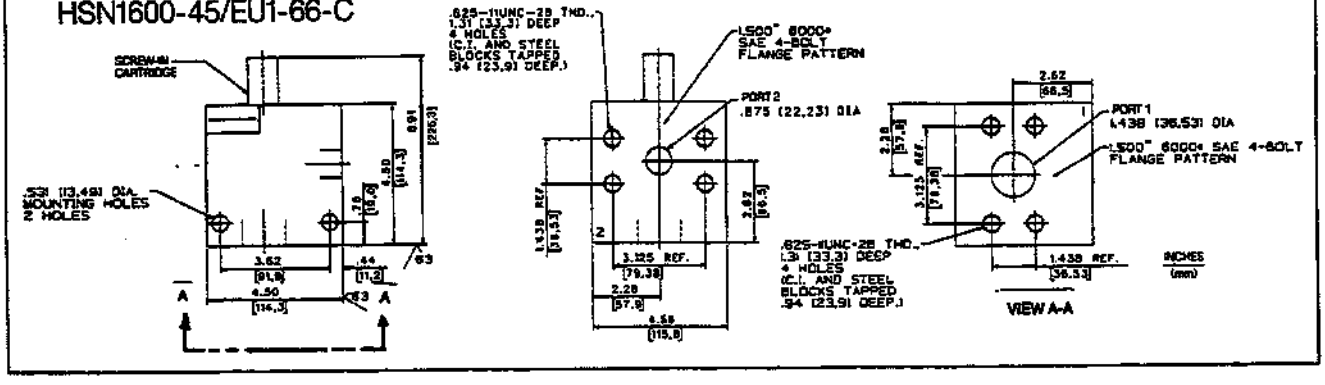
Data Sheet — 45° Shut-Off Valve

Line Mount Specifications

HSN1600-45/EU1-24-C



HSN1600-45/EU1-66-C



How To Order

Screw-In Cartridge Only

HSN1600-45

Cartridge With Line Mount Block

3000 psi (207 bar) service pressure
HSN1600-45/EU1-24-C
5000 psi (345 bar) service pressure
HSN1600-45/EU1-66-C

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Oilgear

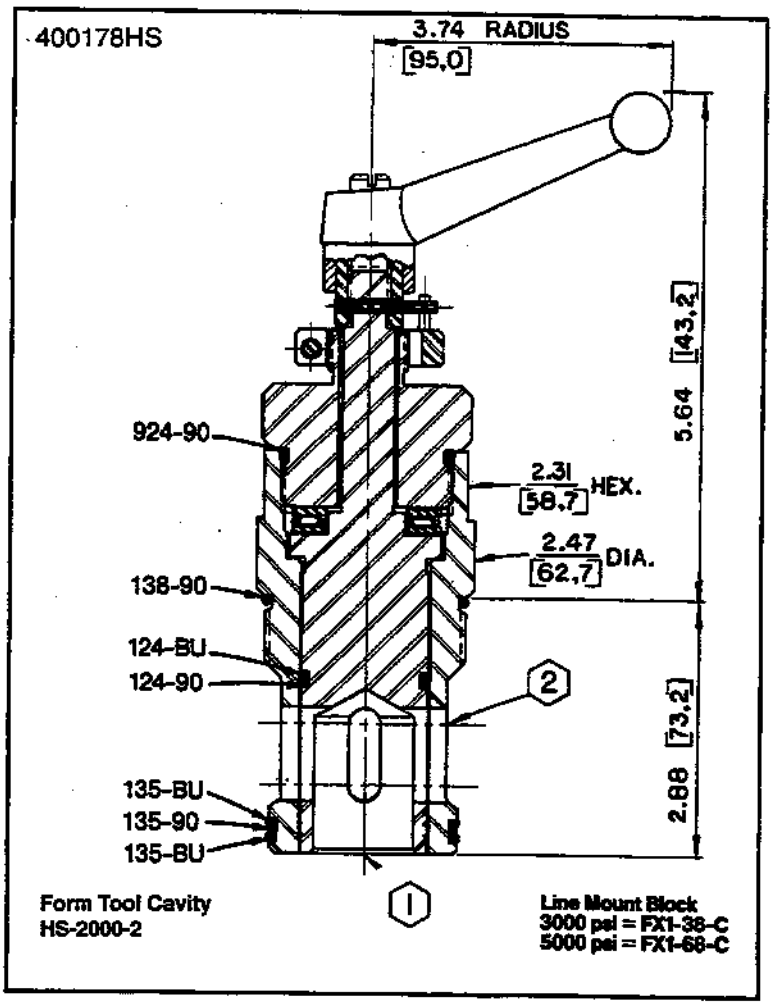
VALVE, SCREW-IN CARTRIDGE

190 GPM △ 100 PSI
(720 LPM △ 6,9 Bar)

HSN2000-45

ENGINEERING | 1

Data Sheet — **45° Shut-Off Valve**



Application

The HSN-45 valve is used to open (or close) one portion of the circuit (to or from) flow from (or to) another portion. Flow can be in either direction (bi-directional).

Operation

There are ports milled thru the body and milled thru the main spool. Rotating the handle 45° counter-clockwise aligns the ports and allows flow between ports 1 and 2. Rotating the handle clockwise shuts off flow.

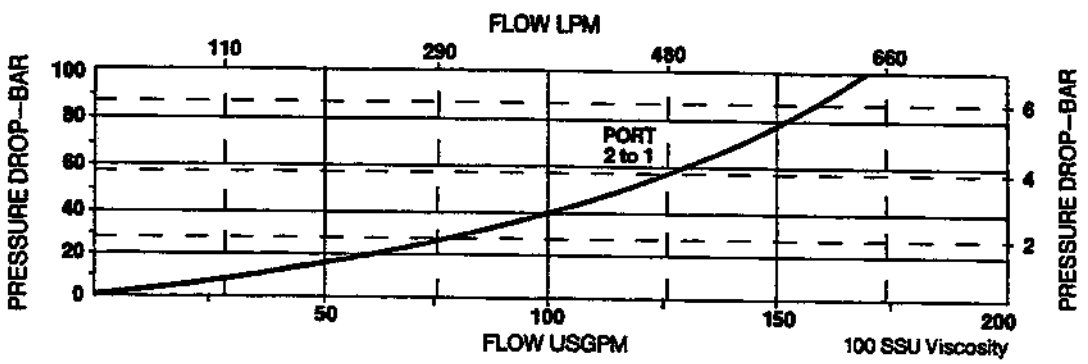
Features

The valve handle position can be re-set in any position after the valve has been installed by simply lifting, rotating and releasing the handle. Design incorporates a roller thrust bearing to ensure the valve can be adjusted with low force. Valve is constructed of steel parts and operating parts are hardened and ground. Cartridge is designed for easy service and field repair.

Specifications

Nominal flow to
(port 2 to 1)—170 gpm (644 lpm)
(port 1 to 2)—190 gpm (720 lpm)
Maximum operating pressure—
5000 psi (345 bar)
Rotation, full close to open—⅛ turn (45°)
Torque to adjust valve when under maximum pressure—(port 1 to 2) = 683 in. lb. (77179 Nmm), (port 2 to 1) = 683 in. lb. (77179 Nmm)
Maximum shut-off leakage at rated pressure—260 cipm (4264 cm³)
Viscosity range—27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals—Viton
Operating temperature—-40°F to 350°F (-39,6°C to 175°C)
Filtration—Maintain SAE Class 6, ISO 18/15
Seal kit—HSSK-2000-I

Performance Curve



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Reissued: Nov., 1995

DS 84170-A2.5

Oilgear

VALVE, SCREW-IN CARTRIDGE

190 GPM △ 100 PSI
(720 LPM △ 6,9 Bar)

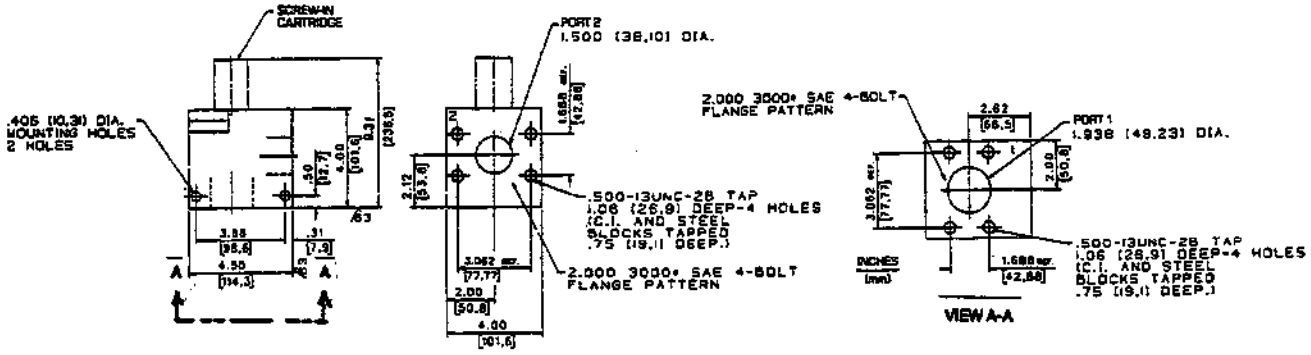
HSN2000-45

ENGINEERING | 2

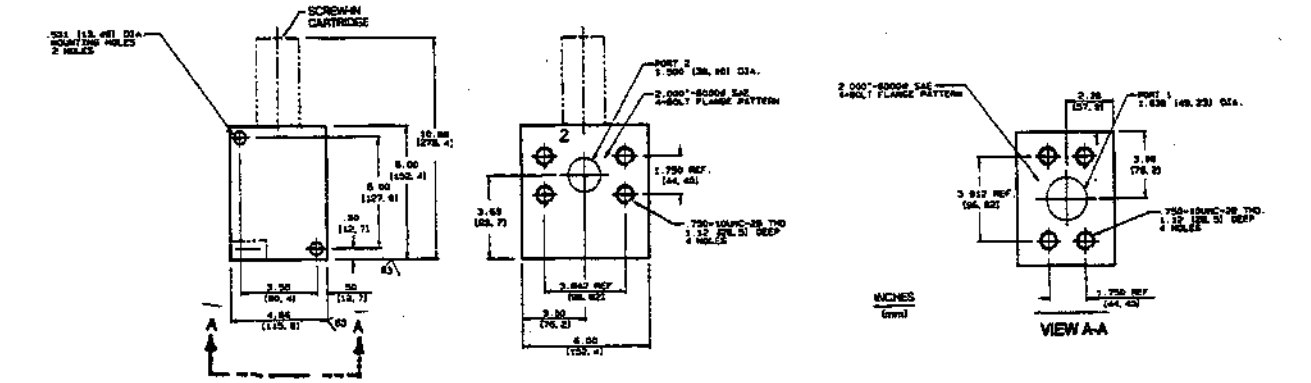
Data Sheet — **45° Shut-Off Valve**

Line Mount Specifications

HSN2000-45/FX1-38-C



HSN2000-45/FX1-68-C



How To Order

Screw-In Cartridge Only

HSN2000-45

Cartridge With Line Mount Block

3000 psi (207 bar) service pressure
HSN2000-45/FX1-38-C
5000 psi (345 bar) service pressure
HSN2000-45/FX1-68-C

Reissued: Nov., 1995
DS 84170-A2.5

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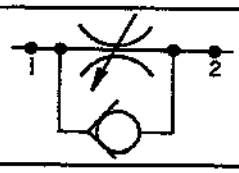
Oilgear

VALVE, SCREW-IN CARTRIDGE

10 USGPM △ 100 PSI
(37,9 LPM △ 6,9 Bar)

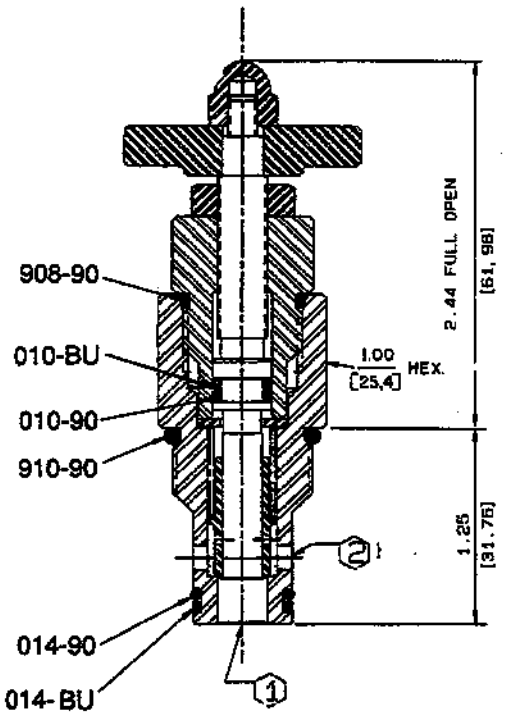
HSF603

ENGINEERING | 1



Data Sheet — **Flow Control Valve**

400923HS



Form Tool Cavity
HS-600-2

Line Mount Block
BB1-08-C

Application

The HSF valve is a non-pressure compensated adjustable orifice for adjusting flow in one direction and allowing free flow in the other direction. Valve is used as an unidirectional flow regulator.

Operation

As the knob is turned clockwise and counter clockwise, the adjusting screw moves in and out of the center of the sleeve type check valve which has an orifice in it. When flow is from port 1 to 2, pressure raises the sleeve, compressing the spring and allowing free flow. Turning the adjusting screw outward allows restricted flow from port 2 to 1.

Features

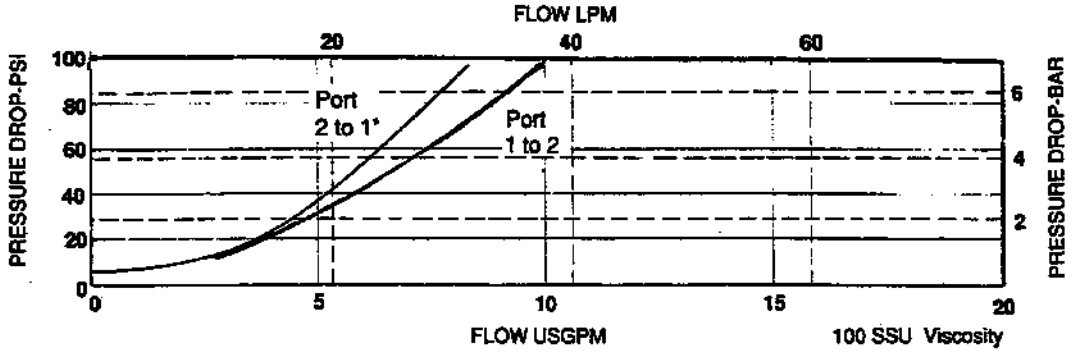
This valve is constructed of steel parts. Operational parts are hardened and ground as required. It is designed for easy service and field repair.

Specifications

Nominal flow
[Port 1 to 2] -10 gpm (37,9 lpm)
[Port 2 to 1 (open)] - 8 gpm (30,3 lpm)
Maximum operating pressure - 5000 psi (345 bar)
Turns, full open to close - 7 turns
Torque to adjust valve when under maximum pressure - 15 in.lbs. (1695 Nmm)
Viscosity Range - 27-30 SSU at 100°F
35-2000 SSU at 100°F
Seal - Viton
Operating temperature- -40°F to 350°F
(-39,6°C to 175°C)
Filtration - Maintain SAE Class 6, ISO 18/15
Seal kit - HSSK-600-AF

Performance Curve

* At 3.5 turns open



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Reissued: Nov., 1995

DS 84250-A5.1

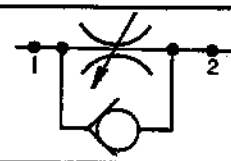
Oilgear

VALVE, SCREW-IN CARTRIDGE

10 USGPM △ 100 PSI
(37,9 LPM △ 6,9 Bar)

HSF603

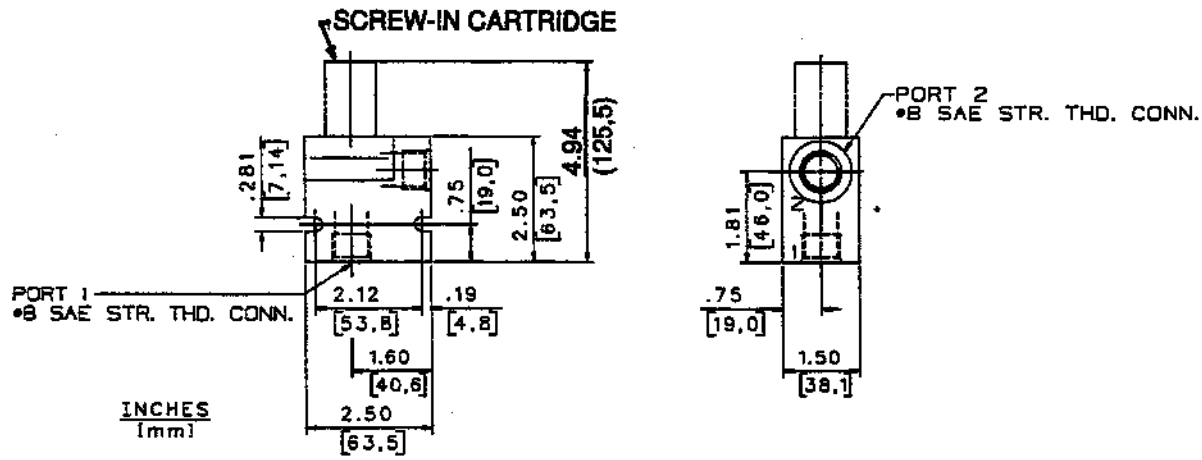
ENGINEERING | 2



Data Sheet — Flow Control Valve

Line Mount Specifications

HSF603/BB1-08-C



How To Order

Screw-in Cartridge Only

HSF603

Cartridge With Line Mount Block

HSF603/BB1-08-C

Reissued: Nov., 1995
DS 84250-A5.1

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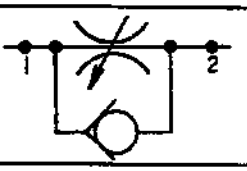
Oilgear

VALVE, SCREW-IN CARTRIDGE

5 USGPM △ 225 PSI
(18,9 LPM △ 15,5 Bar)

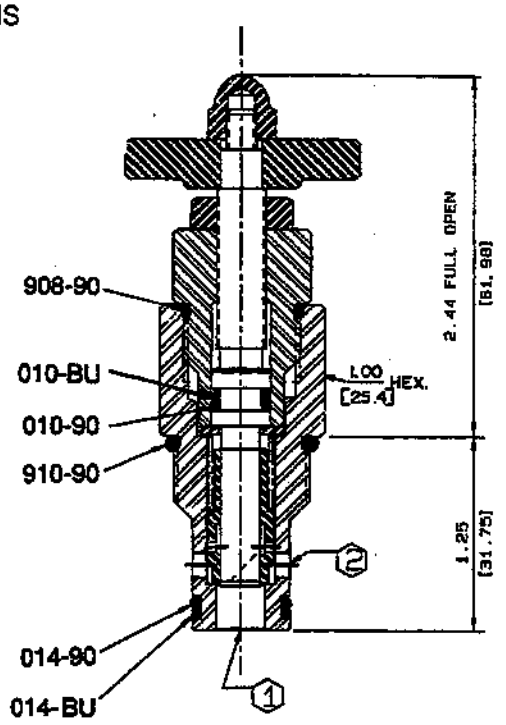
HSF603-M

ENGINEERING | 1



Data Sheet — **Flow Control Valve, Micro**

400924HS

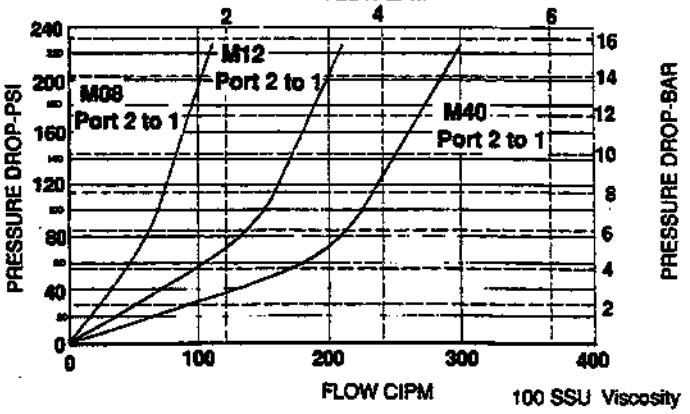


Form Tool Cavity
HS-600-2

Line Mount Block
BB1-08-C

Performance Curve

(at 5.5 turns open)



Application

The HSF-M valve is a non-pressure compensated finely adjustable orifice for adjustment of flow in one direction and allowing limited free flow in the other for use as uni-directional flow regulator actuator.

Operation

The main spool (sleeve) is held on the seat in the body by a spring. As the adjusting knob is turned counterclockwise, the adjusting screw is backed out of the sleeve. The adjusting screw regulates flow thru the side of the body into the center of the main sleeve and out port 1 at the bottom of the body. Flow (pressure) in the opposite direction (port 1) forces the sleeve to open against the spring and allows limited flow (depending on adjusting screw position) from port 1 to 2. Pressure curves indicate closed (worst) condition.

Features

This valve is constructed of steel parts and operating parts are hardened and ground as required. The cartridge is designed for easy service and field repair.

Specifications

Nominal flow at 225 PSI (15,5 bar)		Adjusting Screw M08	M12	M40
Port 1-2 (closed)	cipm	1155	1155	1155
	lpm	18,9	18,9	18,9
Port 2-1 (open max. controlled flow)	cipm	110	210	300
	lpm	1,8	3,2	4,8

Maximum operating pressure - 5000 psi (345 bar)
Turns, full open to close 7 7 7
Torque to adjust valve when under maximum pressure 15 in. lb. (1695 Nmm)
Viscosity range - 27-30 SSU at 100° F
35-2000 SSU at 100° F
Operating temperature - 40° F to 350° F (-39,6° C to 175° C).
Filtration - Maintain SAE Class 6, ISO 18/15
Seal kit - HSSK-600-AF

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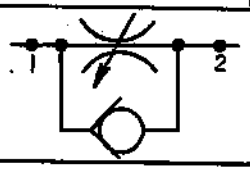
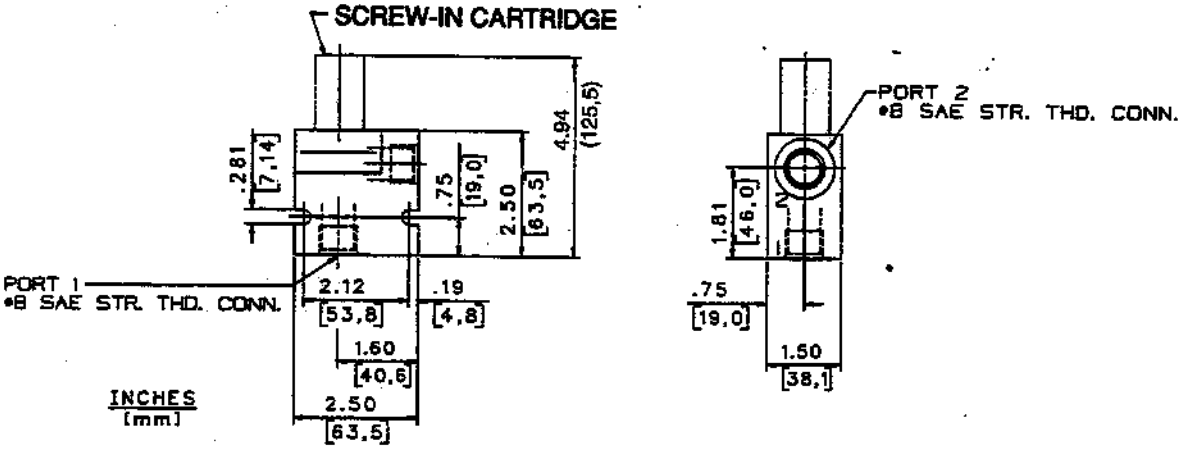
DS 84250-A5.2



Data Sheet

Line Mounted Specifications

HSF603-M**/BB1-08-C



How To Order

Screw-in Cartridge Only

HSF603-M**

	Flow Range at 225 psi (15,5 bar)
M08 =	110 cipm (1,8 lpm)
M12 =	210 cipm (3,4 lpm)
M40 =	300 cipm (4,9 lpm)

Cartridge With Line Mount Block

HSF603-M**/BB1-08-C

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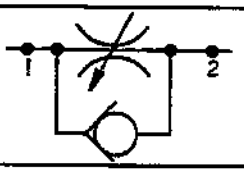
VALVE, SCREW-IN CARTRIDGE

38 GPM △ 100 PSI
(144,0 LPM △ 6,9 Bar)

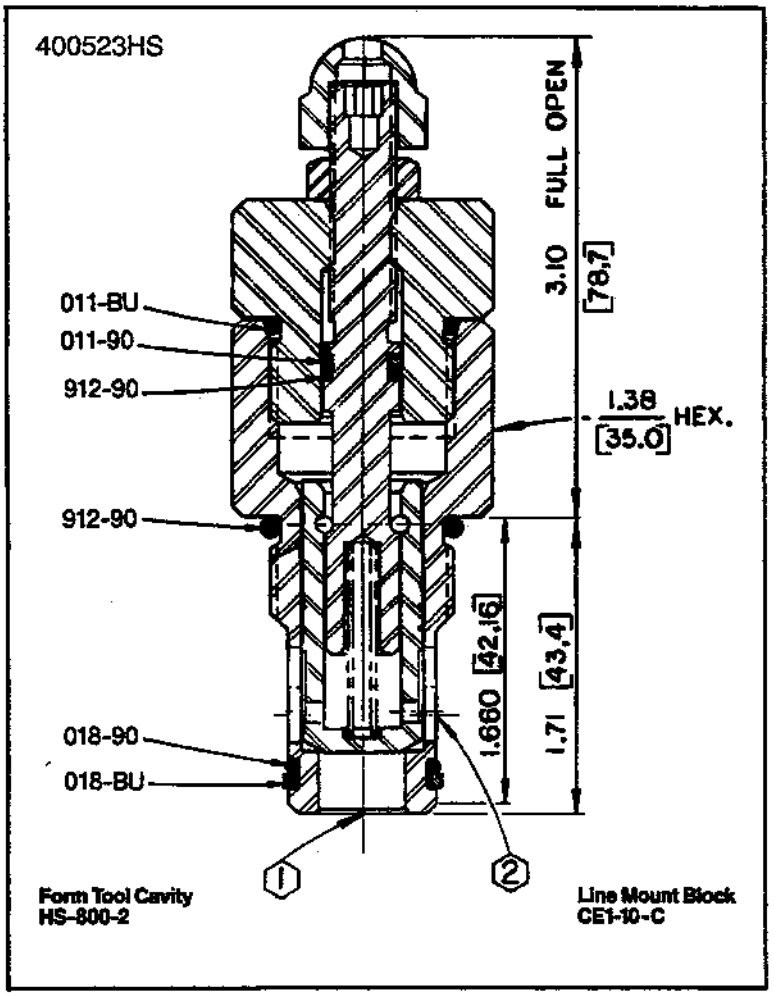
HSF802

ENGINEERING | 1



Oilgear

Data Sheet — **Flow Control Valve**



Application

The HSF valve is a non-pressure compensated adjustable orifice for adjusting flow in one direction and allowing free flow in the other direction. Valve is used as a unidirectional flow regulator.

Operation

The main spool is held, between the small balls and spring, on the adjusting screw. Turning the adjusting screw raises and lowers the main spool for restricted flow from 2 to 1. When flow is from port 1 to 2, pressure raises the spool and compresses the spring and allows free flow.

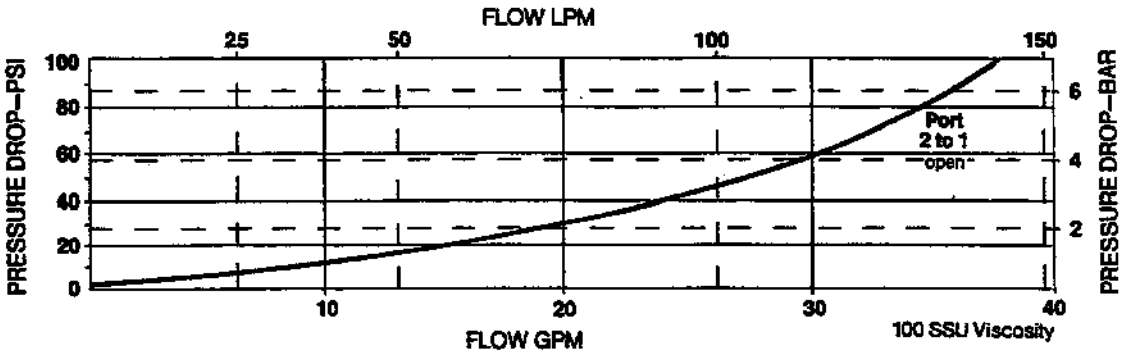
Features

This valve is constructed of steel parts. Operational parts are hardened and ground as required. It is designed for easy service and field repair.

Specifications

Nominal flow to
[port 1-2 (closed)]—35 gpm (132,7 lpm)
[port 2-1 (open)]—38 gpm (144,0 lpm)
Maximum operating pressure—
5000 psi (345 bar)
Turns, full open to close—8 turns
Torque to adjust valve when under maximum pressure—35 in. lbs. (3955 Nmm)
Viscosity range—27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals—Viton
Operating temperature—-40°F to 350°F (-39,6°C to 175°C)
Filtration—Maintain SAE Class 6, ISO 18/15
Seal kit—HSSK-800-B

Performance Curve



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Reissued: Nov., 1995

DS 84250-A5.3

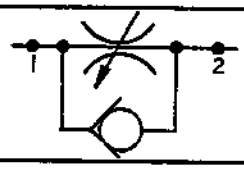
Oilgear

VALVE, SCREW-IN CARTRIDGE

38 GPM △ 100 PSI
(144,0 LPM △ 6,9 Bar)

HSF802

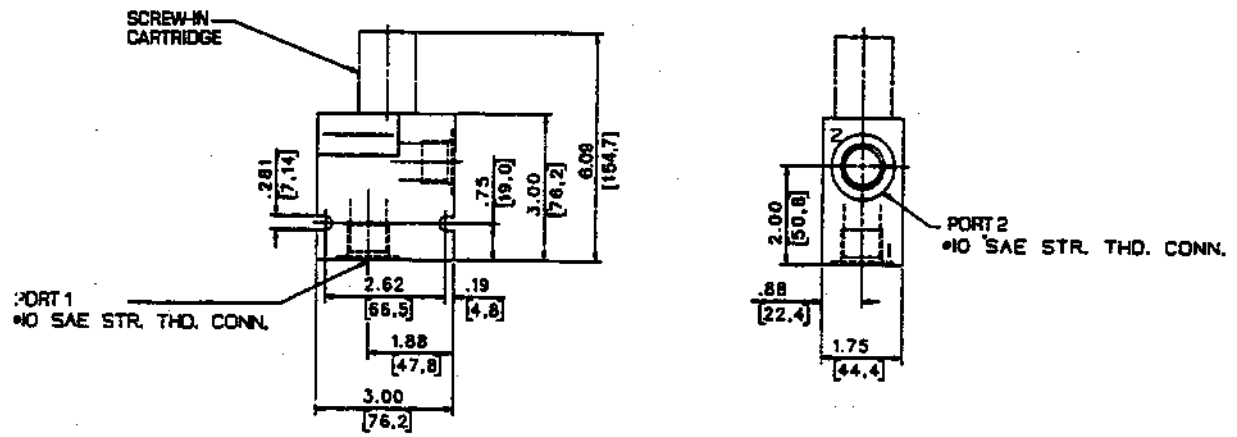
ENGINEERING | 2



Data Sheet — Flow Control Valve

Line Mount Specifications

HSF802/CE1-10-C



How To Order

Screw-In Cartridge Only

HSF802

Cartridge With Line Mount Block

HSF802/CE1-10-C

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

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

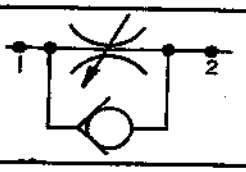
Oilgear

VALVE, SCREW-IN CARTRIDGE

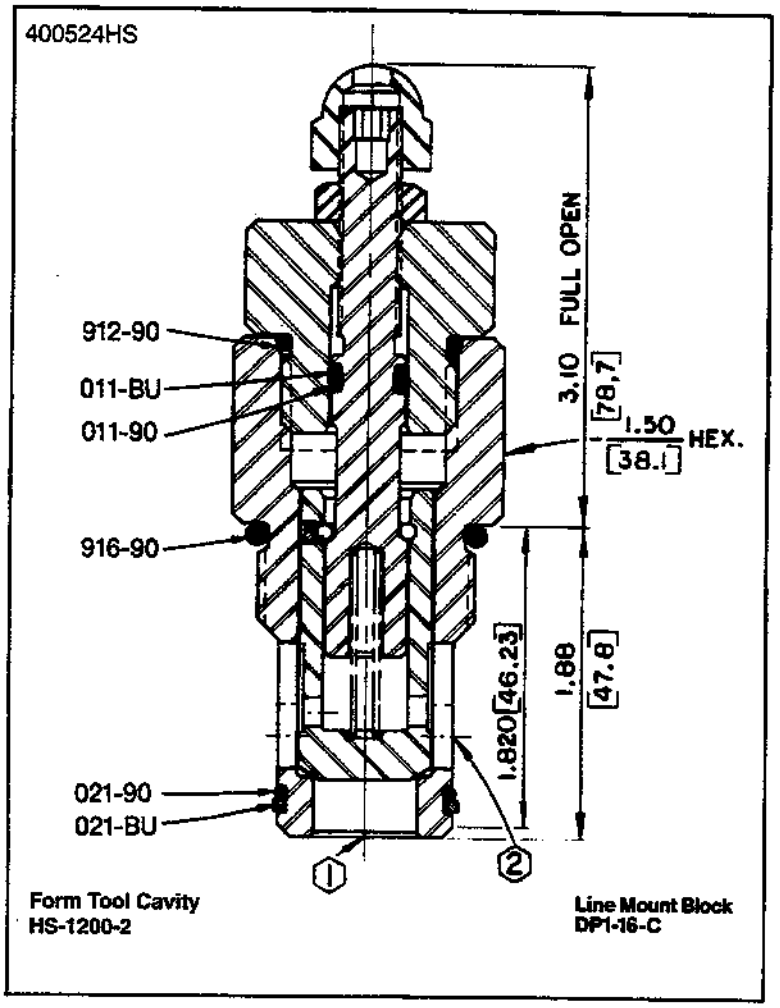
65 GPM △ 100 PSI
(246,4 LPM △ 6,9 Bar)

HSF1202

ENGINEERING 1



Data Sheet — **Flow Control Valve**



Application

The HSF valve is a non-pressure compensated adjustable orifice for adjusting flow in one direction and allowing free flow in the other direction. Valve is used as a unidirectional flow regulator.

Operation

The main spool is held, between the small balls and spring, on the adjusting screw. Turning the adjusting screw raises and lowers the main spool for restricted flow from 2 to 1. When flow is from port 1 to 2, pressure raises the spool and compresses the spring and allows free flow.

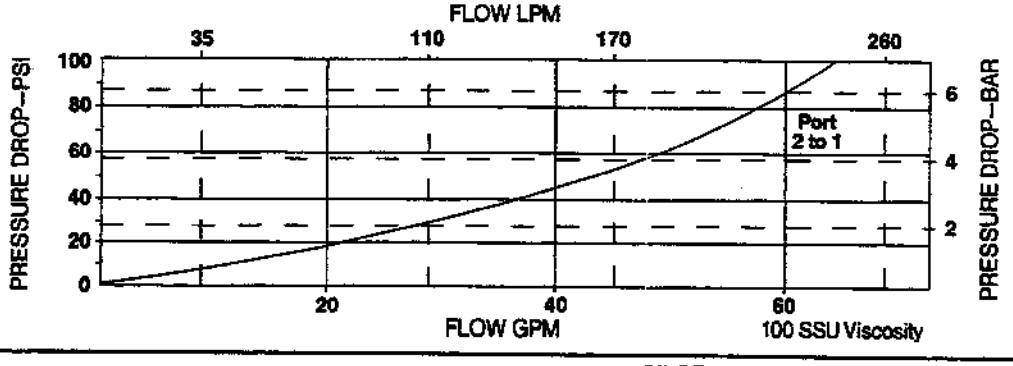
Features

This valve is constructed of steel parts. Operational parts are hardened and ground as required. It is designed for easy service and field repair.

Specifications

Nominal flow to
[port 1-2 (closed)]- 46 gpm (174,3 lpm)
[port 2-1 (open)]- 65 gpm (246,4 lpm)
Maximum operating pressure-
5000 psi (345 bar)
Maximum operating pressure from port 2 to 1 ΔP must not exceed 4000 psi (276 bar)
Turns, full open to close- 8 turns
Torque to adjust valve when under maximum pressure- 65 in. lbs. (7345 Nmm)
Viscosity range- 27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals- Viton
Operating temperature- -40°F to 350°F
(-39,6°C to 175°C)
Filtration- Maintain SAE Class 6, ISO 18/15
Seal kit- HSSK-1200-B

Performance Curve



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

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

Reissued: Nov., 1995

DS 84250-A5.4A

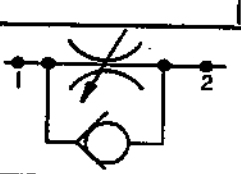
Oilgear

VALVE, SCREW-IN CARTRIDGE

65 GPM △ 100 PSI
(246,4 LPM △ 6,9 Bar)

HSF1202

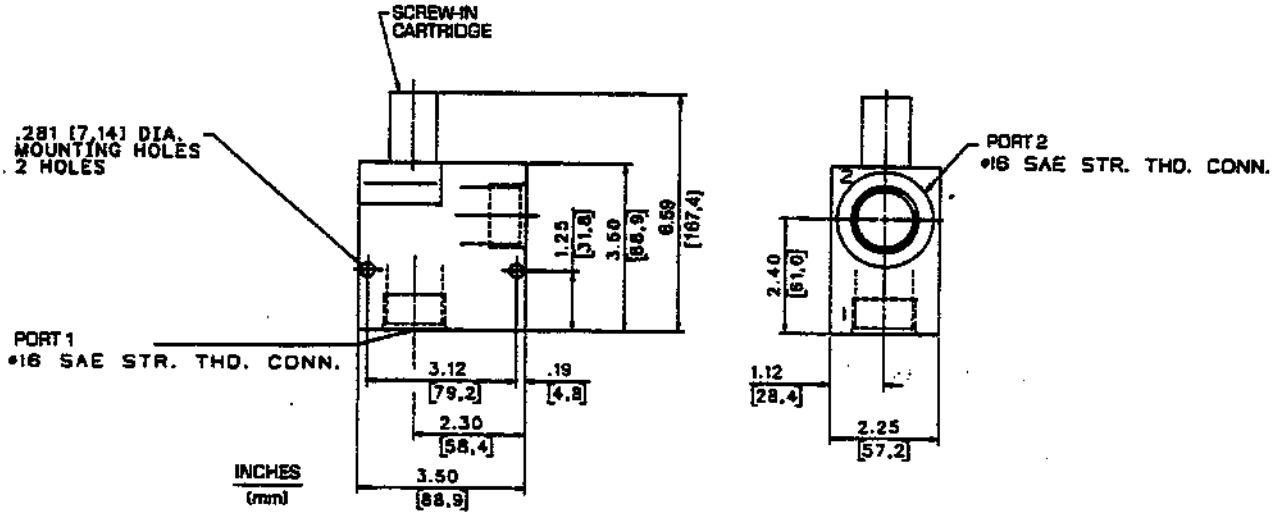
ENGINEERING | 2



Data Sheet — Flow Control Valve

Line Mount Specifications

HSF1202/DP1-16-C



How To Order

Screw-In Cartridge Only

HSF1202

Cartridge With Line Mount Block

HSF1202/DP1-16-C

Reissued: Nov., 1995
DS 84250-A5.4A

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

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

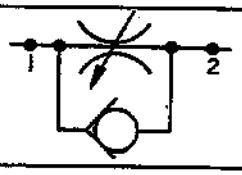
Oilgear

VALVE, SCREW-IN CARTRIDGE

90 GPM △ 100 PSI
(341,1 LPM △ 6,9 Bar)

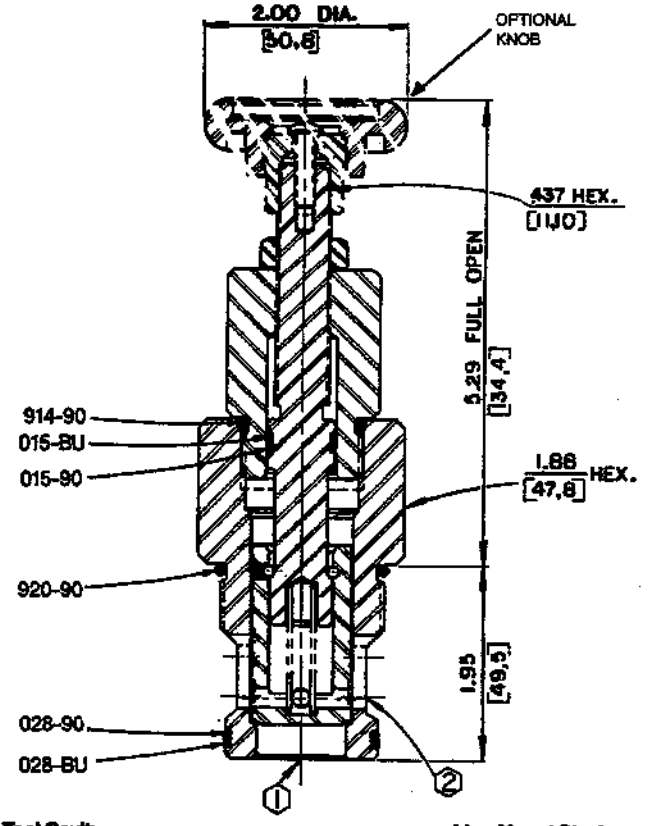
HSF1602

ENGINEERING | 1



Data Sheet — Flow Control Valve

400525HS



Application

The HSF valve is a non-pressure compensated adjustable orifice for adjusting flow in one direction and allowing free flow in the other direction. Valve is used as a unidirectional flow regulator.

Operation

The main spool is held, between the small balls and spring, on the adjusting screw. Turning the adjusting screw raises and lowers the main spool for restricted flow from 2 to 1. When flow is from port 1 to 2, pressure raises the spool and compresses the spring and allows free flow.

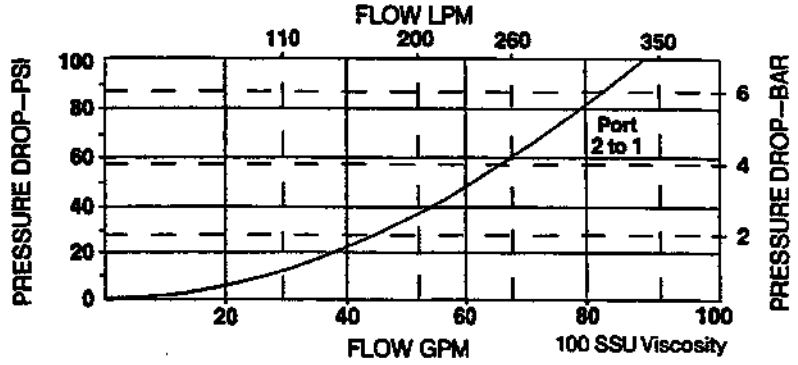
Features

This valve is constructed of steel parts. Operational parts are hardened and ground as required. It is designed for easy service and field repair.

Specifications

Nominal flow to
[port 1-2 (closed)] - 85 gpm (332,2 lpm)
[port 2-1 (open)] - 90 gpm (341,1 lpm)
Maximum operating pressure from port 2 to 1 - ΔP must not exceed 3500 psi (241 bar)
Turns, full open to close - 13 turns
Torque to adjust valve when under maximum pressure - 110 in. lbs. (12430 Nmm)
Viscosity range- 27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals- Viton
Operating temperature- 40°F to 350°F (-39,6°C to 175°C)
Filtration- Maintain SAE Class 6, ISO 18/15
Seal kit - HSSK-1600-B

Performance Curve



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

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

Reissued: Nov., 1995

DS 84250-A5.5A

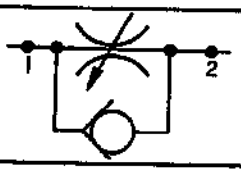
Oilgear

VALVE, SCREW-IN CARTRIDGE

90 GPM Δ 100 PSI
(341,1 LPM Δ 6,9 Bar)

HSF1602

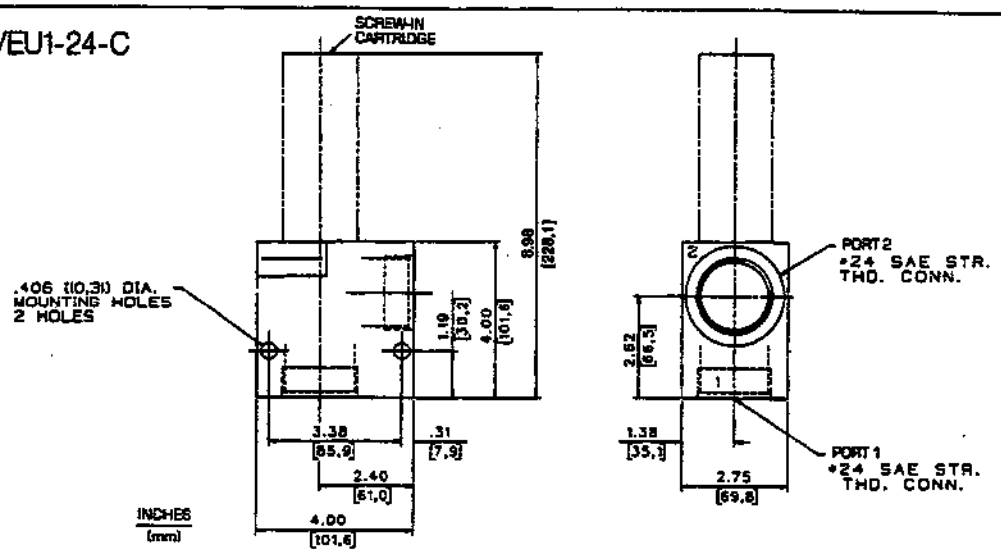
ENGINEERING | **2**



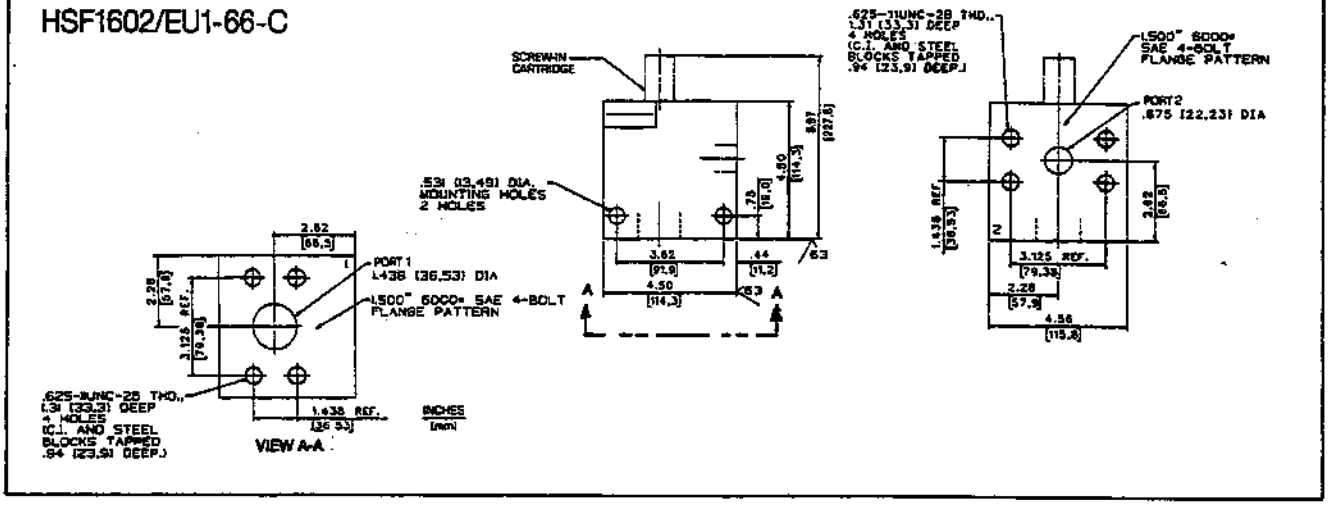
Data Sheet — **Flow Control Valve**

Line Mount Specifications

HSF1602/EU1-24-C



HSF1602/EU1-66-C



How To Order

Screw-In Cartridge Only

HSF1602

Cartridge With Line Mount Block

3000 psi (207 bar) service pressure
HSF1602/EU1-24-C
5000 psi (345 bar) service pressure
HSF1602/EU1-66-C

Reissued: Nov., 1995
DS 84250-A5.5A

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

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

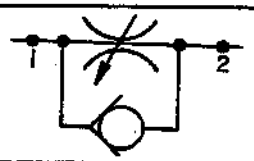
Oilgear

VALVE, SCREW-IN CARTRIDGE

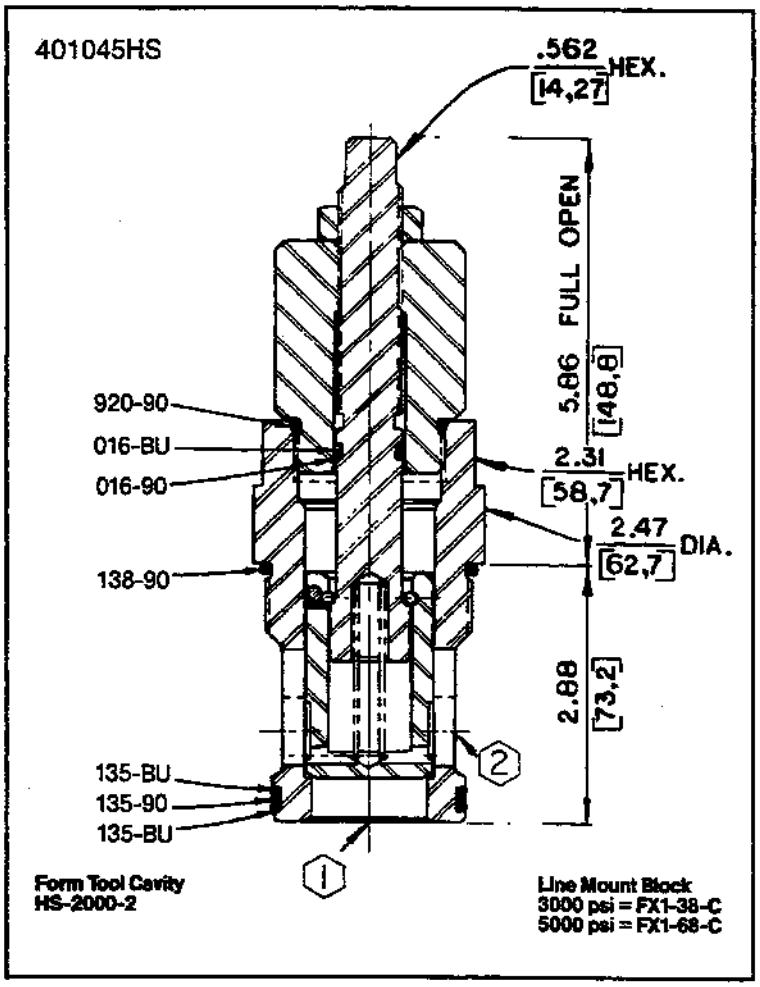
200 GPM △ 100 PSI
(758,0 LPM △ 6,9 Bar)

HSF2003

ENGINEERING | 1



Data Sheet — **Flow Control Valve**



Application

The HSF valve is a non-pressure compensated adjustable orifice for adjusting flow in one direction and allowing free flow in the other direction. Valve is used as a unidirectional flow regulator.

Operation

The main spool is held, between the small balls and spring, on the adjusting screw. Turning the adjusting screw raises and lowers the main spool for restricted flow from 2 to 1. When flow is from port 1 to 2, pressure raises the spool and compresses the spring and allows free flow.

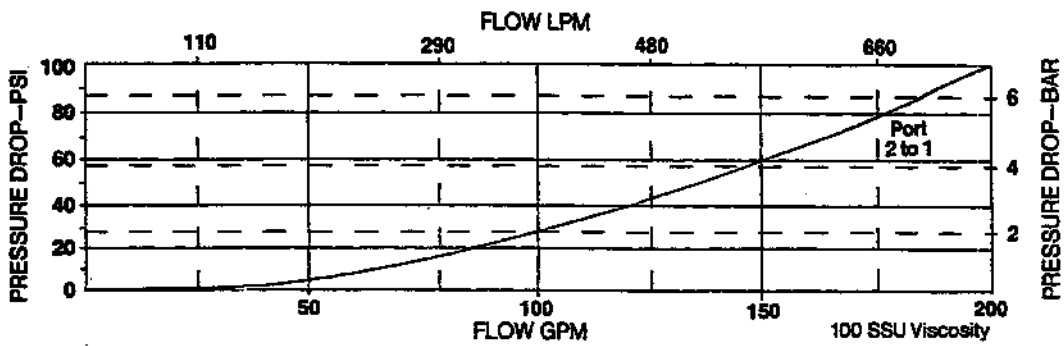
Features

This valve is constructed of steel parts. Operational parts are hardened and ground as required. It is designed for easy service and field repair.

Specifications

Nominal flow to [port 1-2 (closed) and port 2-1 (open)]—200 gpm (758 lpm)
Maximum operating pressure—5000 psi (345 bar)
Maximum operating pressure from 2 to 1—2500 psi (172 bar)
Turns, full open to close—27 turns
Torque to adjust valve when under maximum pressure—490 in. lb. (55,370 Nmm)
Viscosity range—27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals—Viton
Operating temperature—-40°F to 350°F (-39,6°C to 175°C)
Filtration—Maintain SAE Class 6, ISO 18/15
Seal kit—HSSK-2000-B

Performance Curve



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

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

Reissued: Nov., 1995

DS 84250-A5.6A

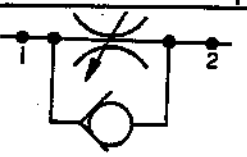
Oilgear

VALVE, SCREW-IN CARTRIDGE

200 GPM △ 100 PSI
(758,0 LPM △ 6,9 Bar)

HSF2003

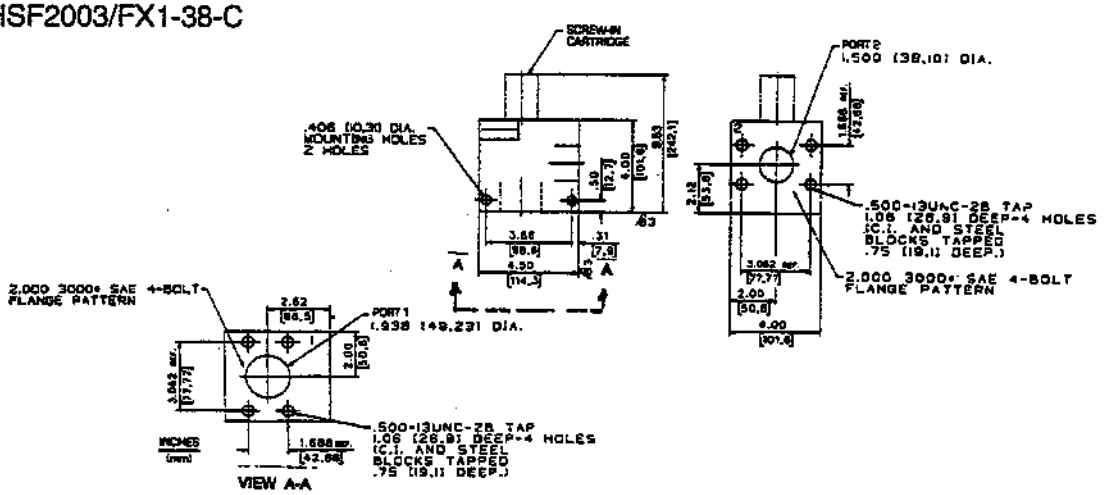
ENGINEERING | 2



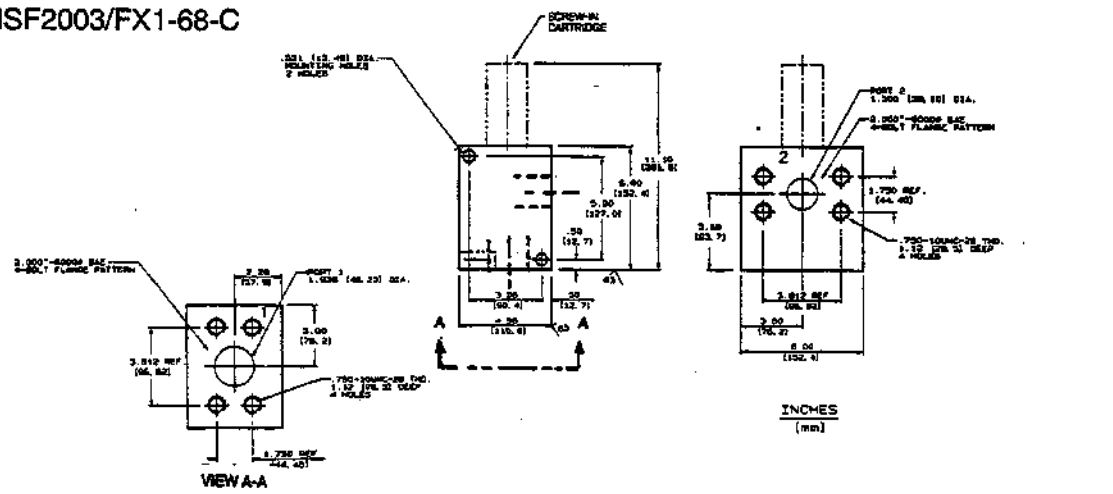
Data Sheet — **Flow Control Valve**

Line Mount Specifications

HSF2003/FX1-38-C



HSF2003/FX1-68-C



How To Order

Screw-In Cartridge Only

HSF2003

Cartridge With Line Mount Block

3000 psi (207 bar) service pressure
HSF2003/FX1-38-C
5000 psi (345 bar) service pressure
HSF2003/FX1-68-C

Reissued: Nov., 1995
DS 84250-A5.6A

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

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

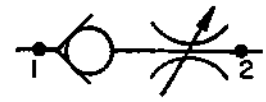
Oilgear

VALVE, SCREW-IN CARTRIDGE

12.5 USGPM △ 100 PSI
(47,4 LPM △ 6,9 Bar)

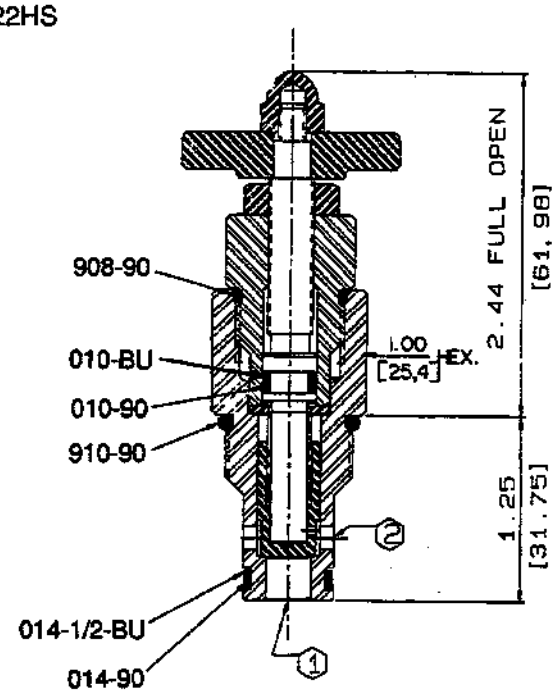
HSNC600

ENGINEERING | 1



Data Sheet — **Needle Check Valve**

400922HS



Form Tool Cavity
HS-600-2

Line Mount Block
BB1-08-C

Application

A HSNC valve prevents flow in one direction while providing an adjustable orifice in the other direction.

Operation

When differential pressure at port 1 is higher than at port 2, the main spool is forced against an inner-chamber spring and opens port 1 to port 2. The spool travel (orifice opening) is adjusted by turning the knob counter clockwise (screw turns outward) to increase flow. A reversal flow, with higher differential pressure at port 2, forces the spool closed and blocks flow.

Features

The HSNC Cartridge Valve is constructed of steel parts. Operating parts are hardened and ground as required. The cartridge is designed for easy service and field repair.

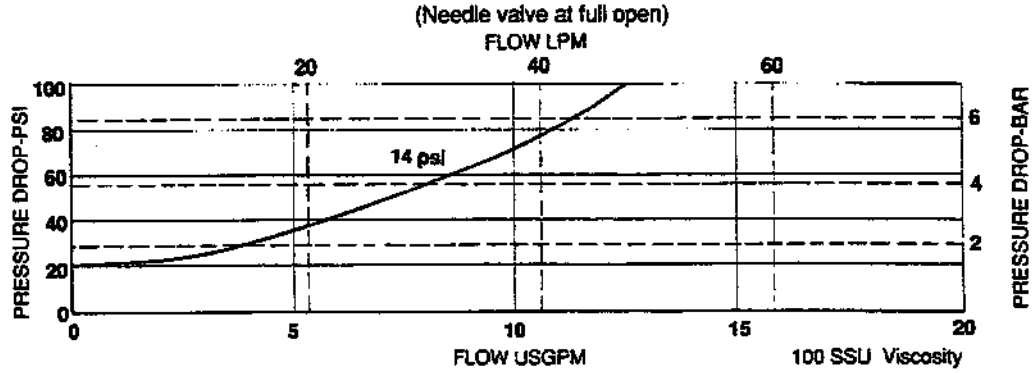
Specifications

Nominal flow with 14 psi (1,0 bar) spring - 12.5 gpm (47,4 lpm)

Maximum operating pressure - 5000 psi (345 bar)
Rotation, full shut to open - 4-3/4 turns
Torque to adjust valve when under maximum pressure - 17 in. lb. (1921 Nmm).
Viscosity Range - 27-30 SSU at 100° F
35-2000 SSU at 100° F
Seals - Viton
Operating temperature - 40° F to 350° F (-39,6° C to 175° C)
Filtration - Maintain SAE Class 6, ISO 18/15
Seal kit - HSSK-600-AE

Performance Curve

(Needle valve at full open)



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

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

Reissued: Nov., 1995

DS 84350-A3.05

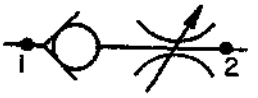
Oilgear

VALVE, SCREW-IN CARTRIDGE

12.5 USGPM △ 100 PSI
(47,4 LPM △ 6,9 Bar)

HSNC600

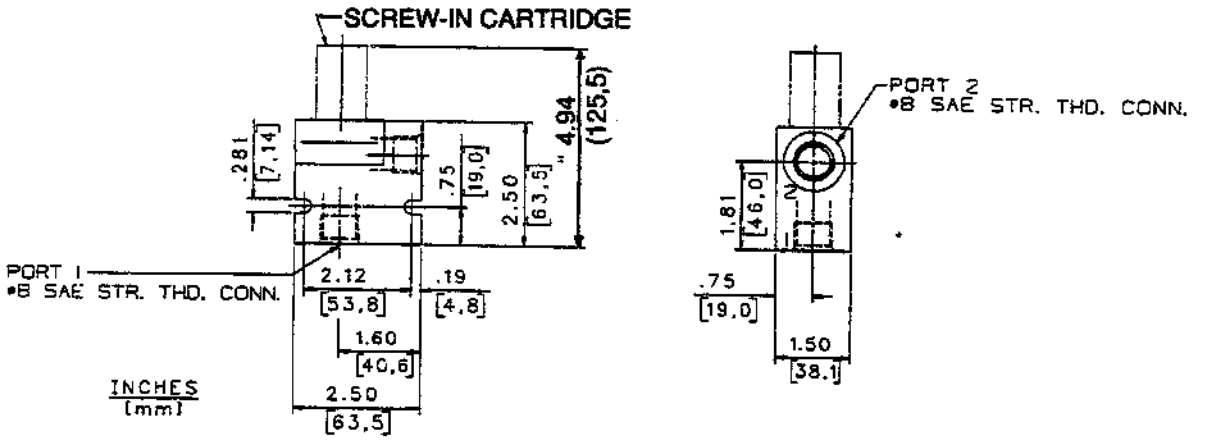
ENGINEERING | 2



Data Sheet — Needle Check Valve

Line Mounted Specifications

HSNC600/BB1-08-C



How To Order

Screw-in Cartridge Only

HSNC600 - ___

	Cracking Pressure	
	psi	bar
Blank	14	1,0

Cartridge With Line Mount Block

HSNC600 ___ /BB1-08-C

Reissued: Nov., 1995
DS 84350-A3.05

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

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

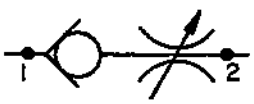
Oilgear

VALVE, SCREW-IN CARTRIDGE

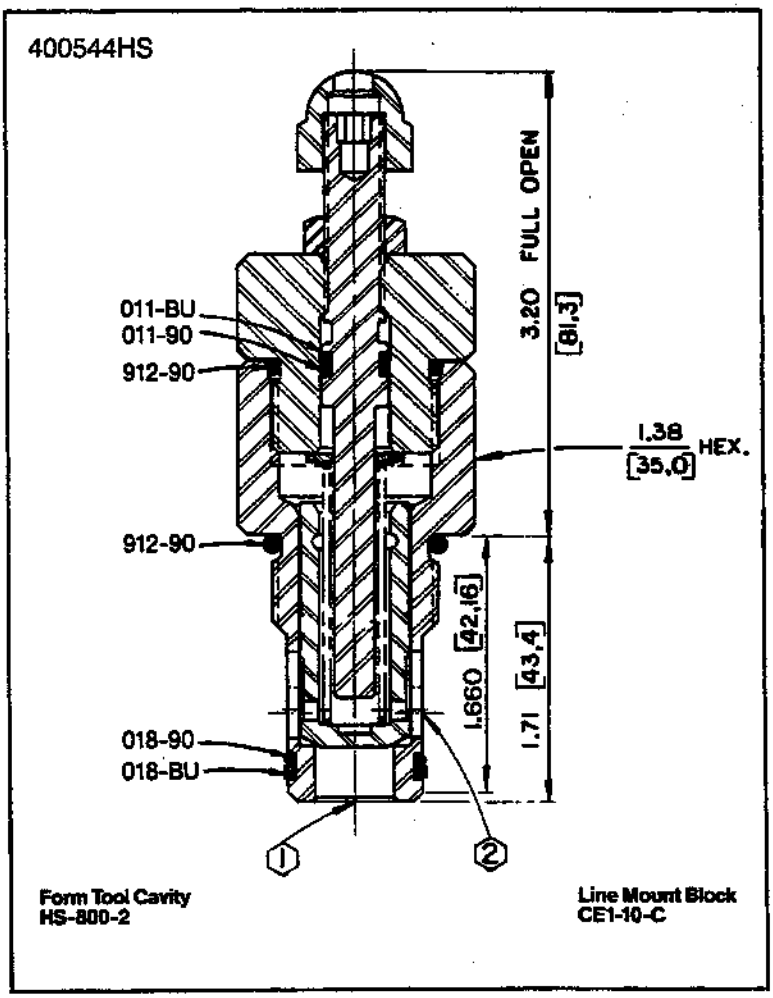
38 GPM △ 100 PSI
(144 LPM △ 6,9 Bar)

HSNC802

ENGINEERING | 1



Data Sheet — **Needle Check Valve**



Application

A HSNC valve prevents flow in one direction while providing an adjustable orifice, in the other direction.

Operation

When differential pressure at port 1 is higher than at port 2, the main spool is forced against an inner-chamber spring and opens port 1 to port 2. The spool travel (orifice opening) is adjusted by a screw which can be turned outwards to increase flow. A reversal flow, with higher differential pressure at port 2, forces the spool closed and blocks flow.

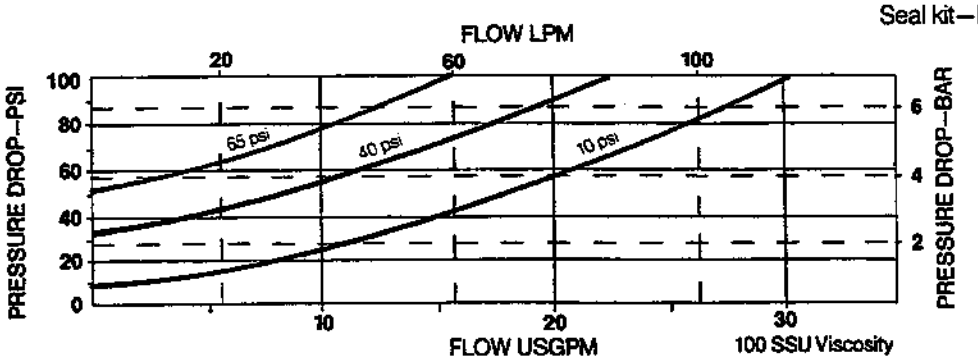
Features

Several cracking pressure (port 1 to 2) settings are available. The HSNC Cartridge Valve is constructed of steel parts. Operating parts are hardened and ground as required. The cartridge is designed for easy service and field repair.

Specifications

Nominal flow with 10 psi (0,7 bar) spring—38 gpm (144 lpm)
Nominal flow with 40 psi (2,8 bar) spring—34 gpm (129 bar)
Nominal flow with 65 psi (4,5 bar) spring—31 gpm (117 lpm)
Maximum operating pressure—5000 psi (345 bar)
Rotation, full shut to open—9.6 turns
Torque to adjust valve when under maximum pressure—30 in. lb. (3390 Nmm)
Viscosity range—27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals—Viton
Operating temperature—-40°F to 350°F (-39,6°C to 175°C)
Filtration—Maintain SAE Class 6, ISO 18/15
Seal kit—HSSK-800-B

Performance Curve



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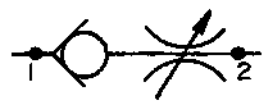
Fax: (414) 327-0532

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

Reissued: Nov., 1995

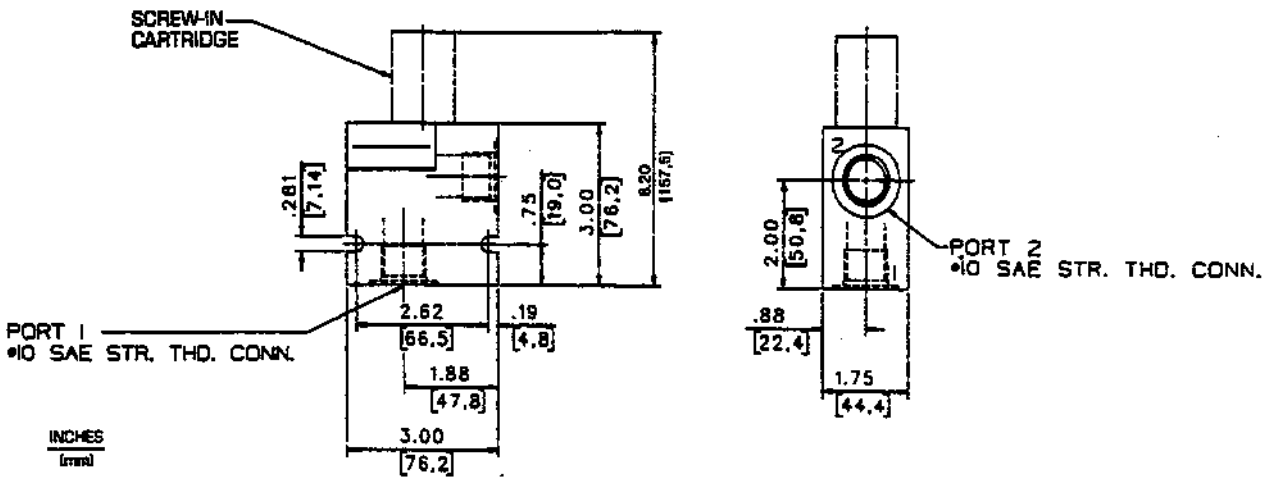
DS 84350-A3.1



Data Sheet — Needle Check Valve

Line Mount Specifications

HSNC802/CE1-10-C



How To Order

Screw-In Cartridge Only

HSNC802- ____

	Cracking Pressure	
	psi	bar
Blank	10	0,69
40	40	2,76
65	65	4,48

Cartridge With Line Mount Block

HSNC802-__/CE1-10-C

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

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

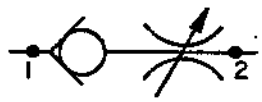
Oilgear

VALVE, SCREW-IN CARTRIDGE

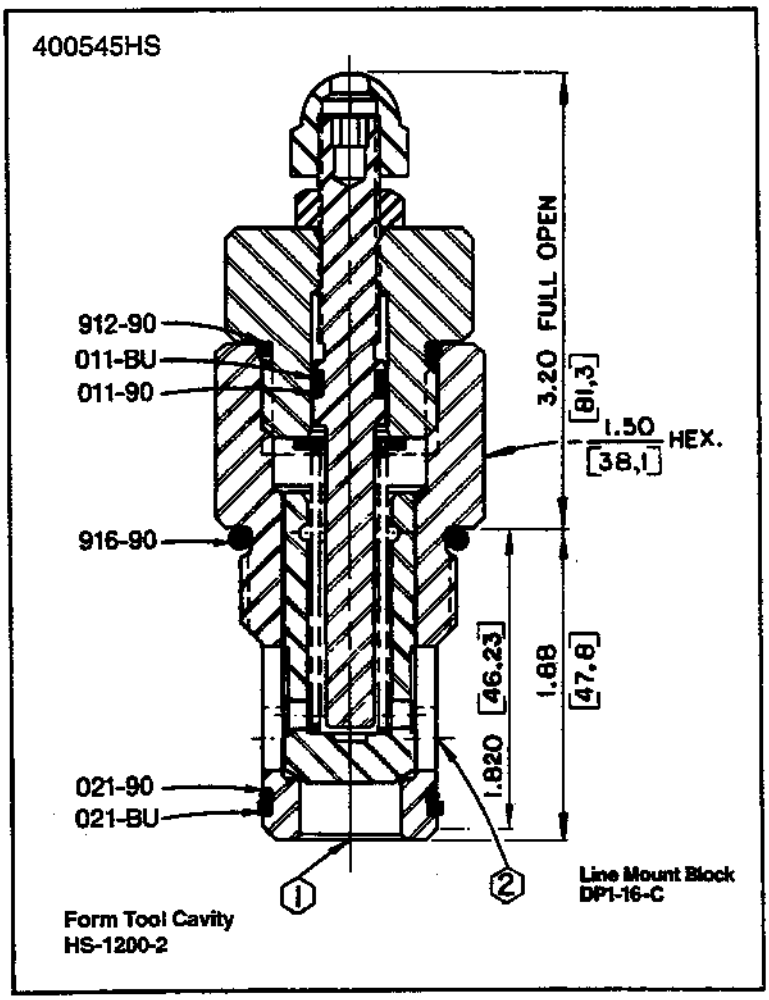
73 GPM △ 100 PSI
(277 LPM △ 6,9 Bar)

HSNC1202

ENGINEERING | 1



Data Sheet — **Needle Check Valve**



Application

A HSNC valve prevents flow in one direction while providing an adjustable orifice, in the other direction.

Operation

When differential pressure at port 1 is higher than at port 2, the main spool is forced against an inner-chamber spring and opens port 1 to port 2. The spool travel (orifice opening) is adjusted by a screw which can be turned outwards to increase flow. A reversal flow, with higher differential pressure at port 2, forces the spool closed and blocks flow.

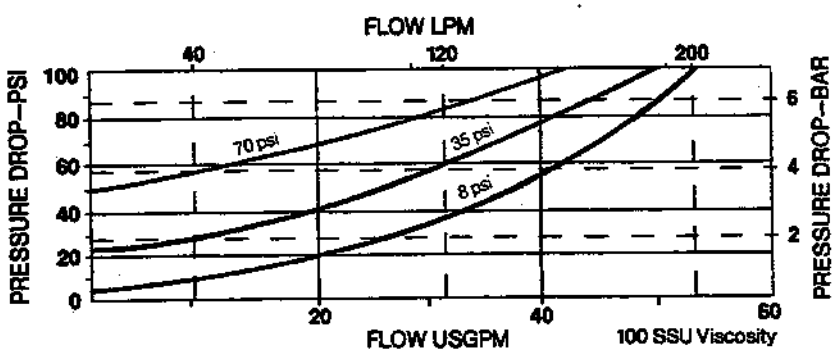
Features

Several cracking pressure (port 1 to 2) settings are available. The HSNC Cartridge Valve is constructed of steel parts. Operating parts are hardened and ground as required. The cartridge is designed for easy service and field repair.

Specifications

Nominal flow with 8 psi (0,6 bar) spring—
73 gpm (277 lpm)
Nominal flow with 35 psi (2,4 bar) spring—
67 gpm (254 lpm)
Nominal flow with 70 psi (4,8 bar) spring—
60 gpm (227 lpm)
Maximum operating pressure—
5000 psi (345 bar)
Rotation, full shut to open—10.0 turns
Torque to adjust valve when under maximum pressure—70 in. lb. (7910 Nmm)
Viscosity range—27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals—Viton
Operating temperature—-40°F to 350°F
(-39,6°C to 175°C)
Filtration—Maintain SAE Class 6, ISO 18/15
Seal kit—HSSK-1200-B

Performance Curve



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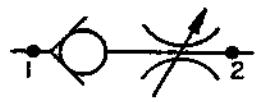
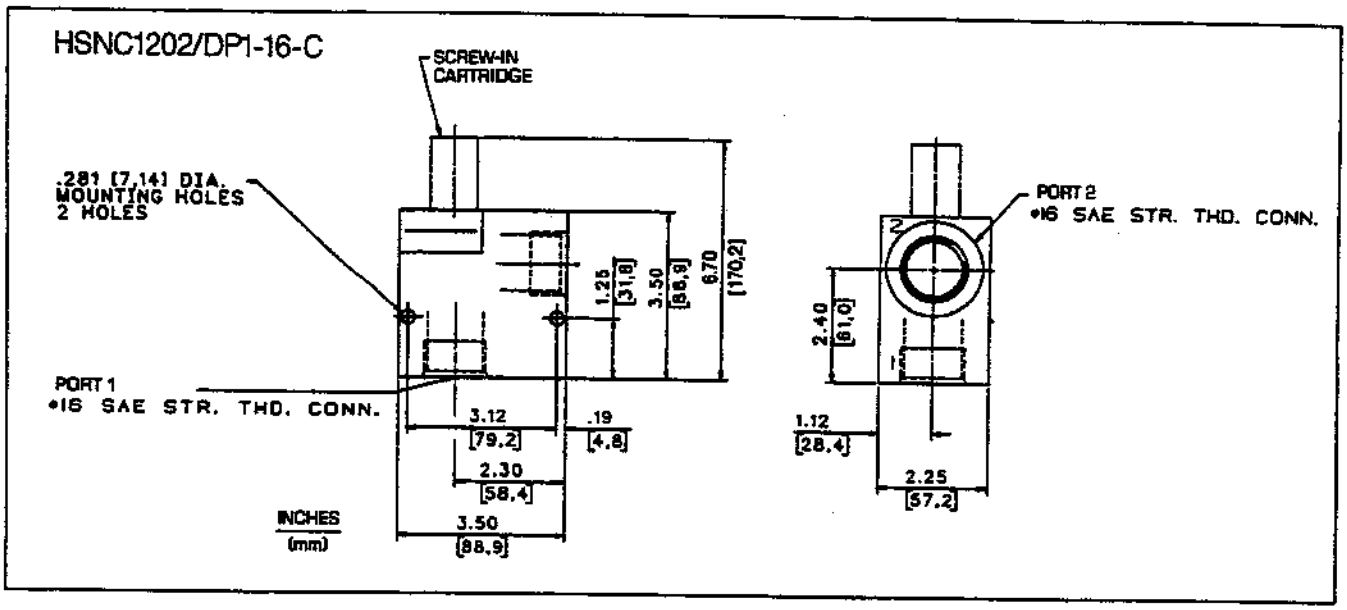
Reissued: Nov., 1995

DS 84350-A3.2



Data Sheet — Needle Check Valve

Line Mount Specifications



How To Order

Screw-In Cartridge Only

HSNC1202-____

	Cracking Pressure	
	psi	bar
Blank	8	0,55
35	35	2,41
70	70	4,83

Cartridge With Line Mount Block

HSNC1202-__/DP1-16-C

OILGEAR
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Milwaukee, WI USA 53219

Telephone: (414) 327-1700
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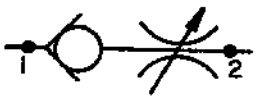
Oilgear

VALVE, SCREW-IN CARTRIDGE

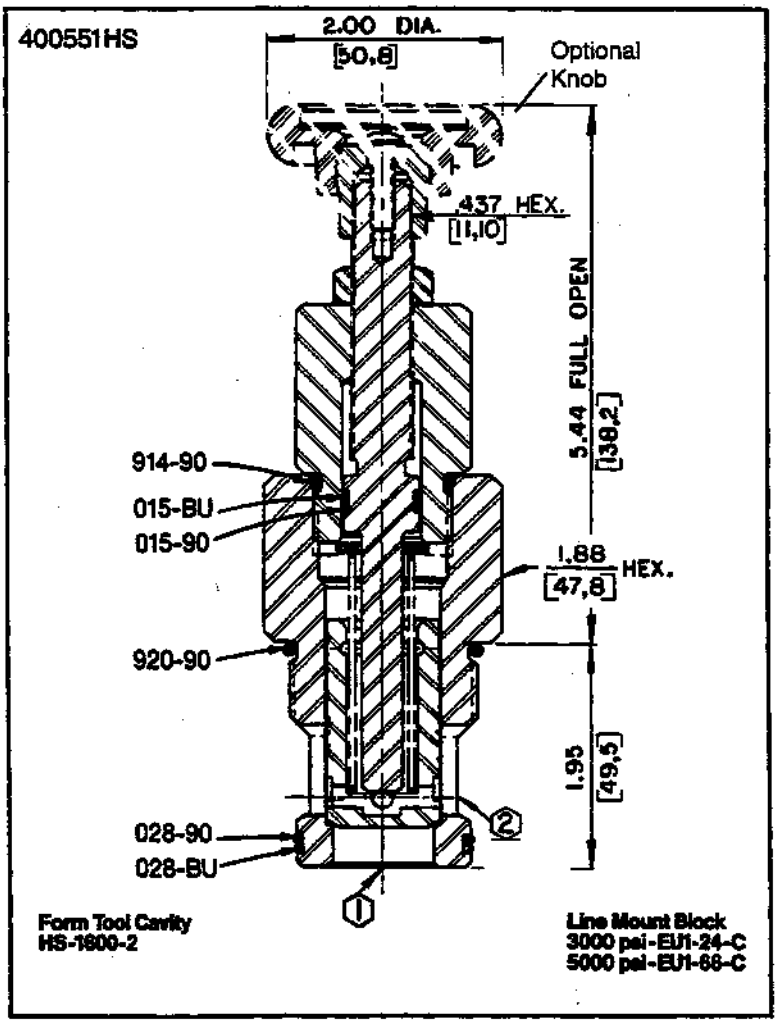
90 GPM △ 100 PSI
(341 LPM △ 6,9 Bar)

HSNC1603

ENGINEERING | 1



Data Sheet — **Needle Check Valve**



Application

A HSNC valve prevents flow in one direction while providing an adjustable orifice, in the other direction.

Operation

When differential pressure at port 1 is higher than at port 2, the main spool is forced against an inner-chamber spring and opens port 1 to port 2. The spool travel (orifice opening) is adjusted by a screw which can be turned outwards to increase flow. A reversal flow, with higher differential pressure at port 2, forces the spool closed and blocks flow.

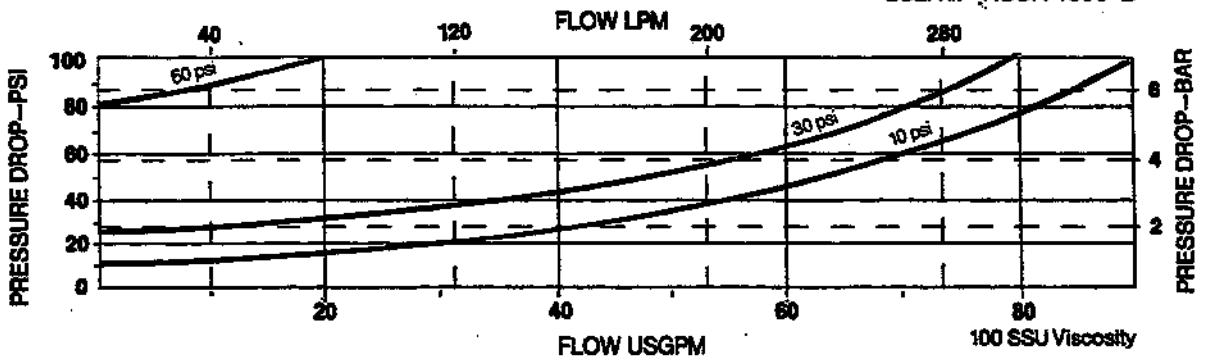
Features

Several cracking pressure (port 1 to 2) settings are available. The HSNC Cartridge Valve is constructed of steel parts. Operating parts are hardened and ground as required. The cartridge is designed for easy service and field repair.

Specifications

Nominal flow with 10 psi (0,7 bar) spring—
90 gpm (341 lpm)
Nominal flow with 30 psi (2,1 bar) spring—
80 gpm (303 lpm)
Nominal flow with 60 psi (4,1 bar) spring—
19 gpm (72 lpm)
Maximum operating pressure—
5000 psi (345 bar)
Rotation, full shut to open—18.2 turns
Torque to adjust valve when under maximum pressure—110 in. lb. (12430 Nmm)
Viscosity range—27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals—Viton
Operating temperature—-40°F to 350°F
(-39,6°C to 175°C)
Filtration—Maintain SAE Class 6, ISO 18/15
Seal kit—HSSK-1600-B

Performance Curve



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OILGEAR
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Reissued: Nov., 1995

DS 84350-A3.3

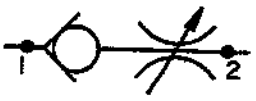
Oilgear

VALVE, SCREW-IN CARTRIDGE

90 GPM △ 100 PSI
(341 LPM △ 6,9 Bar)

HSNC1603

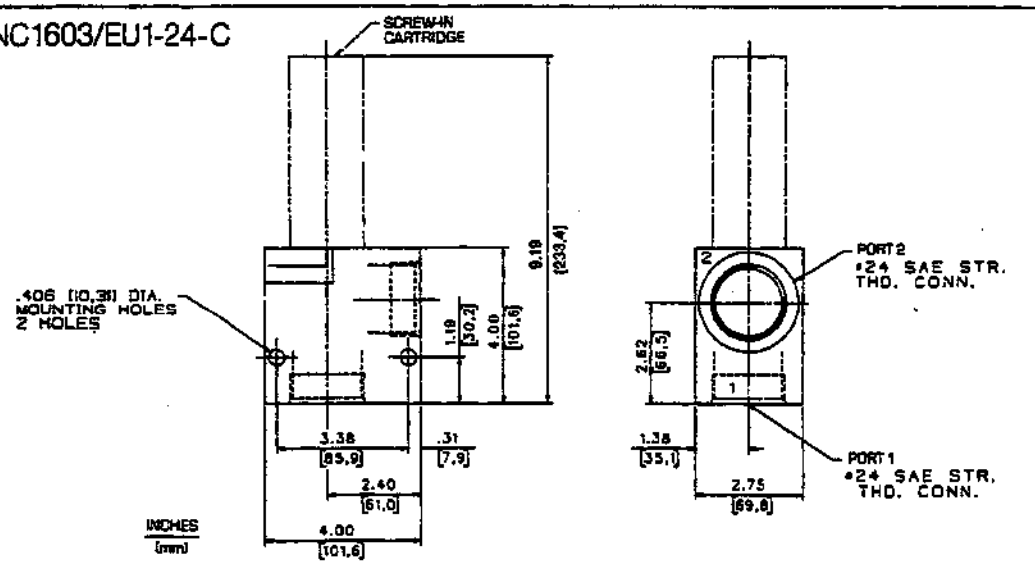
ENGINEERING | 2



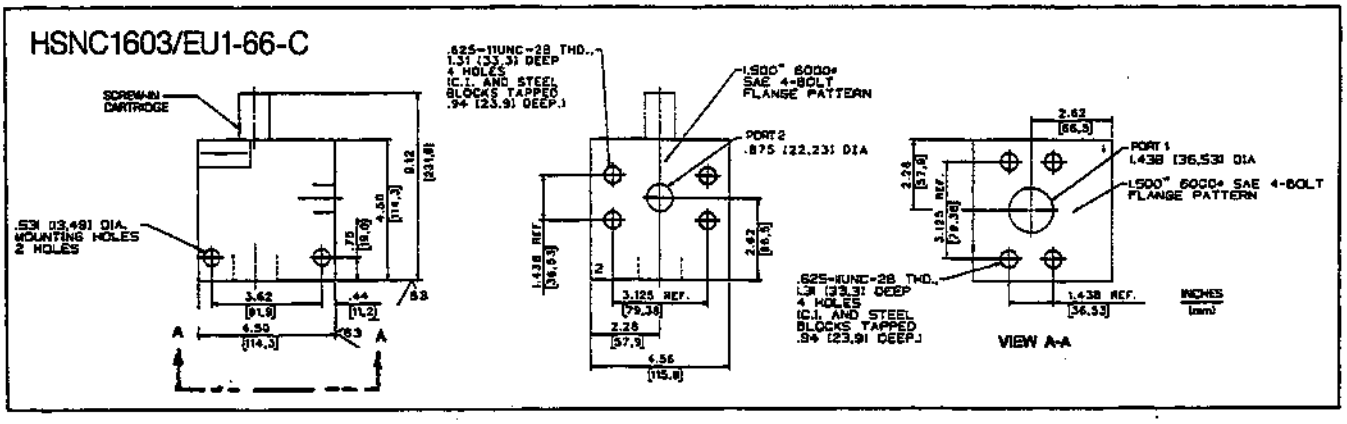
Data Sheet — **Needle Check Valve**

Line Mount Specifications

HSNC1603/EU1-24-C



HSNC1603/EU1-66-C



How To Order

Screw-In Cartridge Only

HSNC1603-____

	Cracking Pressure	
	psi	bar
Blank	10	0,69
30	35	2,07
60	60	4,14

Cartridge With Line Mount Block

3000 psi (207 bar) service pressure
HSNC1603-__/EU1-24-C
5000 psi (345 bar) service pressure
HSNC1603-__/EU1-66-C

Reissued: Nov., 1995
DS 84350-A3.3

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Milwaukee, WI USA 53219

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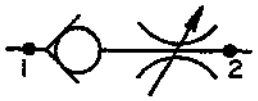
Oilgear

VALVE, SCREW-IN CARTRIDGE

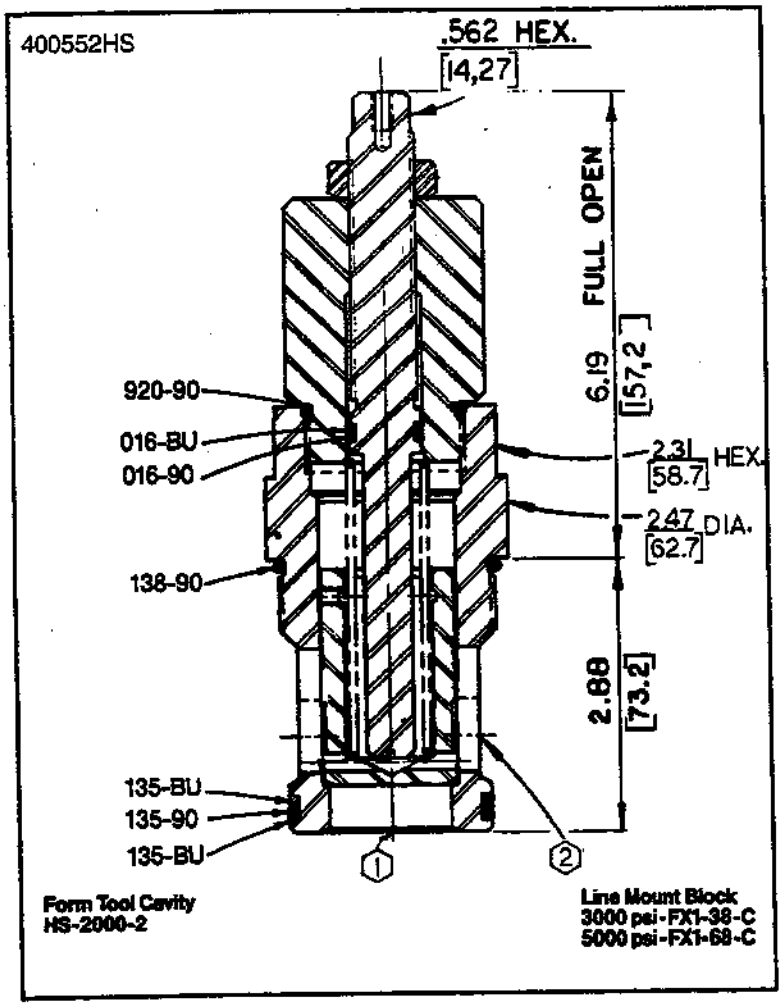
225 GPM Δ 100 PSI
(852 LPM Δ 6,9 Bar)

HSNC2003

ENGINEERING | 1



Data Sheet — **Needle Check Valve**



Application

A HSNC valve prevents flow in one direction while providing an adjustable orifice, in the other direction.

Operation

When differential pressure at port 1 is higher than at port 2, the main spool is forced against an inner-chamber spring and opens port 1 to port 2. The spool travel (orifice opening) is adjusted by a screw which can be turned outwards to increase flow. A reversal flow, with higher differential pressure at port 2, forces the spool closed and blocks flow.

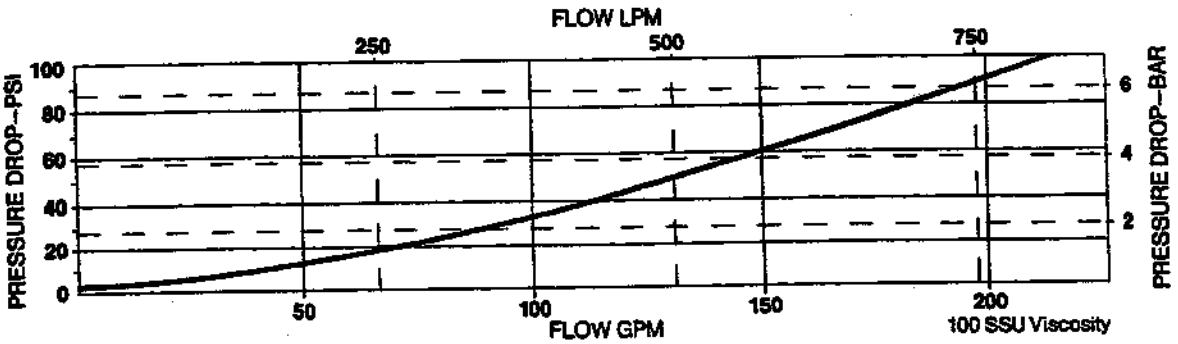
Features

Several cracking pressure (port 1 to 2) settings are available. The HSNC Cartridge Valve is constructed of steel parts. Operating parts are hardened and ground as required. The cartridge is designed for easy service and field repair.

Specifications

Nominal flow with 5 psi (0,3 bar) spring—
225 gpm (852 lpm)
Nominal flow with 25 psi (1,7 bar) spring—
180 gpm (681 lpm)
Nominal flow with 50 psi (3,7 bar) spring—
150 gpm (568 lpm)
Maximum operating pressure—
5000 psi (345 bar)
Rotation, full shut to open—32.1 turns
Torque to adjust valve when under maximum pressure—500 in. lb. (56500 Nmm)
Viscosity range—27-30 SSU at 100°F
25-2000 SSU at 100°F
Seals—Viton
Operating temperature—-40°F to 350°F
(-39,6°C to 175°C)
Filtration—Maintain SAE Class 6, ISO 18/15
Seal kit—HSSK-2000-B

Performance Curve



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OILGEAR
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Reissued: Nov., 1995

DS 84350-A3.4

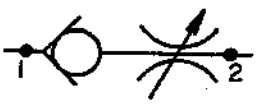
Oilgear

VALVE, SCREW-IN CARTRIDGE

225 GPM △ 100 PSI
(852 LPM △ 6,9 Bar)

HSNC2003

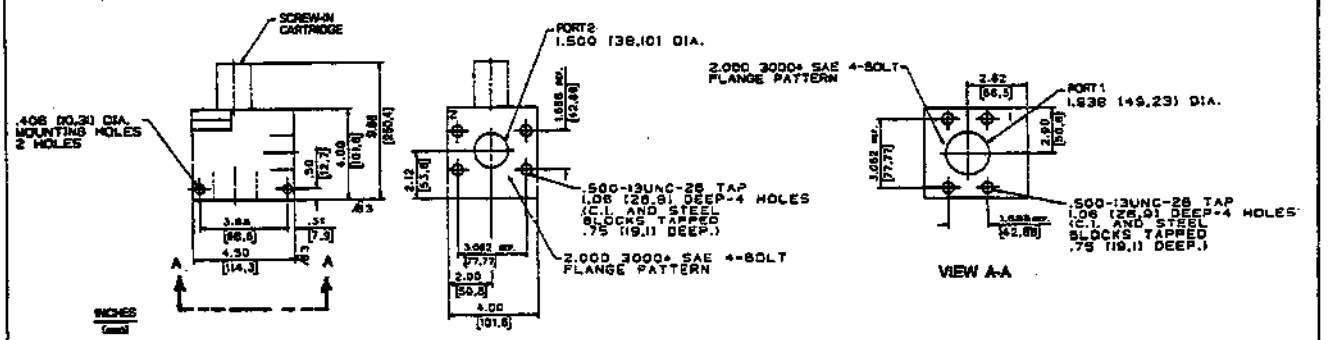
ENGINEERING | 2



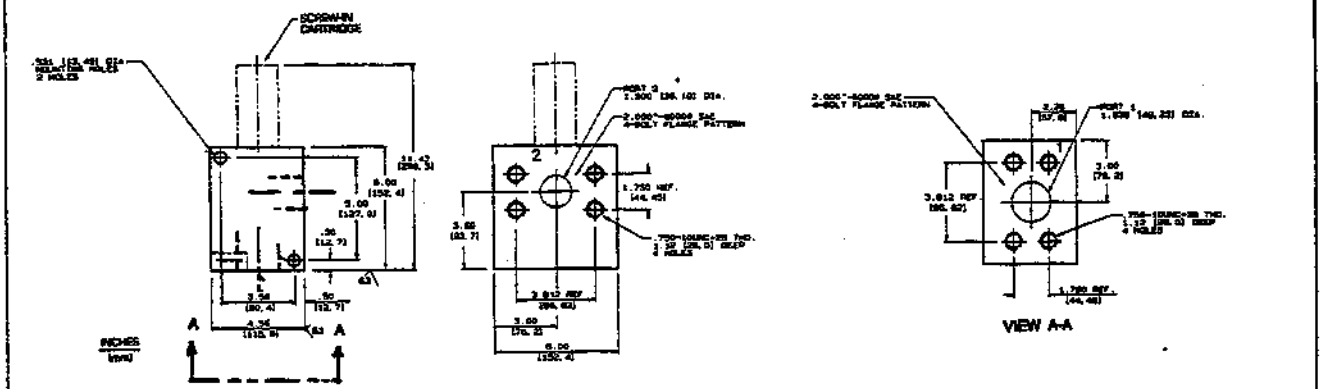
Data Sheet — Needle Check Valve

Line Mount Specifications

HSNC2003/FX1-38-C



HSNC2003/FX1-68-C



How To Order

Screw-In Cartridge Only

HSNC2003-____

	Cracking Pressure	
	psi	bar
Blank	5	0,34
25	25	1,72
50	50	3,45

Cartridge With Line Mount Block

3000 psi (207 bar) service pressure
HSNC2003-__/FX1-38-C
5000 psi (345 bar) service pressure
HSNC2003-__/FX1-68-C

Reissued: Nov., 1995
DS 84350-A3.4

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

Telephone: (414) 327-1700
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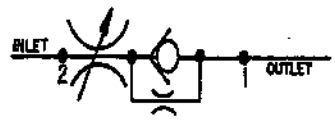
Oilgear

VALVE, SCREW-IN CARTRIDGE

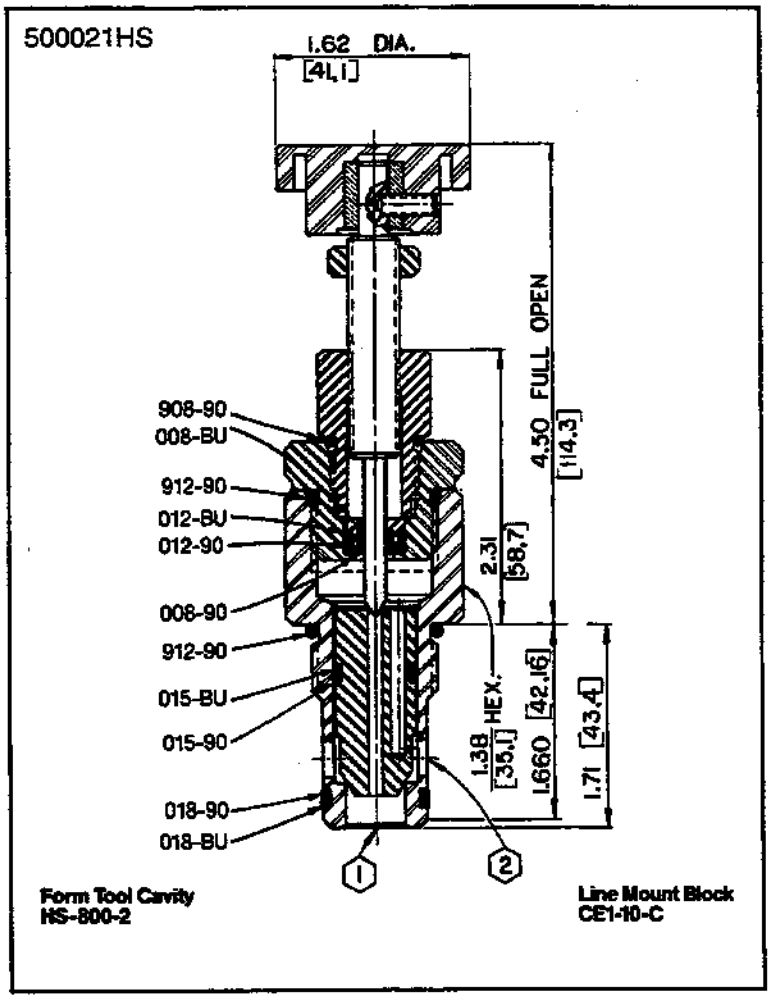
34 GPM △ 100 PSI
(128,9 LPM △ 6,9 Bar)

HSTV800

ENGINEERING | 1



Data Sheet — **Throttle Valve**



Application

The HSTV valve is a low torque—fast acting, non-compensated adjustable orifice (port 2 to 1) used to meter-in, meter-out, or bleed-off circuits to control fluid flow volume.

Operation

The adjusting screw is separate from the main spool. Turning the screw outward connects the upper area of the spool to the low pressure port 1 and allows port 2 pressure (flow) to act on the annular area of the main spool and raise it until the point of the screw seals a passage to port 1 drilled thru the spool. Port 2 is also connected thru a balancing orifice and another drilled passage to the area above the spool. Therefore, fluid pressure is the same (balanced) on both ends of the spool. When screw is turned inward to reduce flow, only the sliding friction of the spool in the body has to be overcome. Unadjustable flow from port 1 to port 2 is possible under some circumstances.

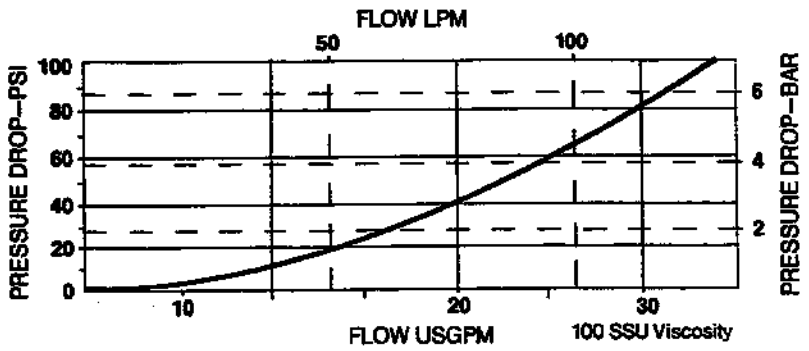
Features

The valve is hydraulically balanced and can be adjusted, even at 5000 psi, in either direction with finger tip ease. Cartridge valve is constructed of steel parts, operating parts are hardened and ground as required. Cartridge is designed for easy service or field repairs. A stepping motor drive can be added for open or closed loop control.

Specifications

Nominal flow to—34 gpm (128,9 lpm)
Maximum operating pressure—
5000 psi (345 bar)
Turn, full open to close—5 turns
Torque to adjust valve when under maximum pressure—(port 2 to 1) = 1.35 in. lb.
(0.15 Nmm)
Maximum shut-off leakage at rated pressure—
5 drops per minute
Viscosity range—27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals—Viton
Operating temperature—-40°F to 350°F
(-39,6°C to 175°C)
Filtration—Maintain SAE Class 6, ISO 18/15
Seal kit—HSSK-800-J

Performance Curve



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

Reissued: Nov., 1995

DS 84360-A4.1

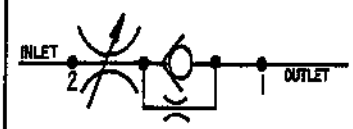
Oilgear

VALVE, SCREW-IN CARTRIDGE

34 GPM △ 100 PSI
(128,9 LPM △ 6,9 Bar)

HSTV800

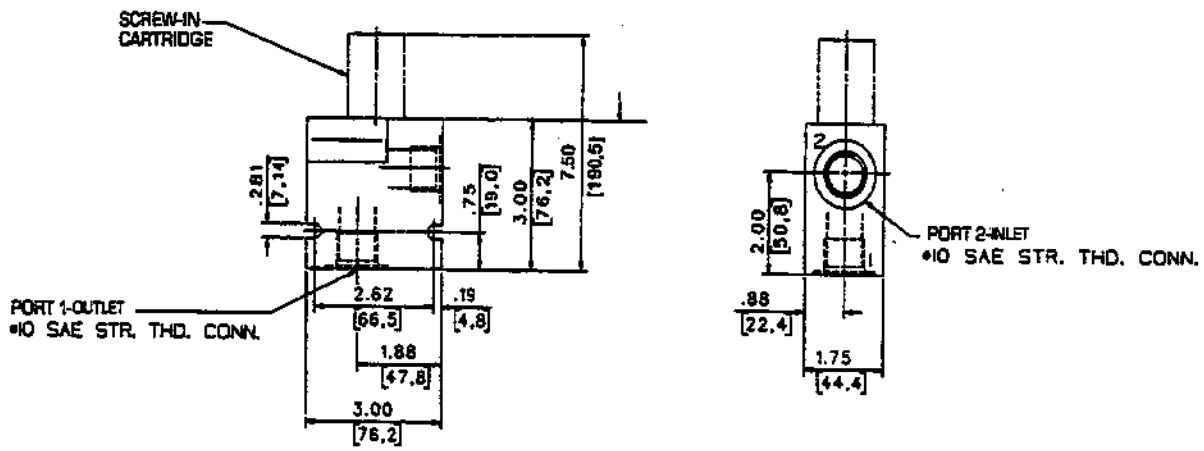
ENGINEERING | 2



Data Sheet — Throttle Valve

Line Mount Specifications

HSTV800/CE1-10-C



How To Order

Screw-In Cartridge Only

HSTV800- ___

	Adjuster
Blank	Plastic knob (Std)
K	Knurled knob

Cartridge With Line Mount Block

HSTV800-__/CE1-10-C

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DS 84360-A4.1

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Milwaukee, WI USA 53219

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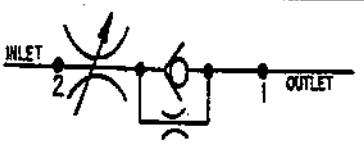
Oilgear

VALVE, SCREW-IN CARTRIDGE

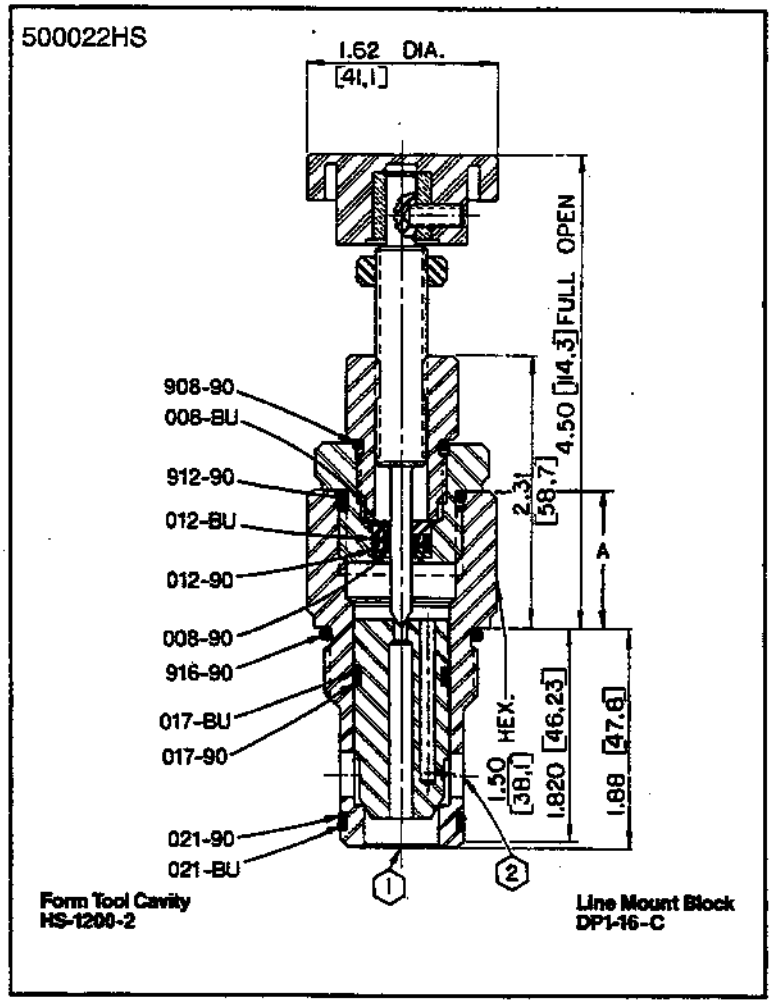
60 GPM △ 100 PSI
(227,4 LPM △ 6,9 Bar)

HSTV1200

ENGINEERING | **1**



Data Sheet — **Throttle Valve**



Application

The HSTV valve is a low torque—fast acting, non-compensated adjustable orifice (port 2 to 1) used to meter-in, meter-out, or bleed-off circuits to control fluid flow volume.

Operation

The adjusting screw is separate from the main spool. Turning the screw outward connects the upper area of the spool to the low pressure port 1 and allows port 2 pressure (flow) to act on the annular area of the main spool and raise it until the point of the screw seals a passage to port 1 drilled thru the spool. Port 2 is also connected thru a balancing orifice and another drilled passage to the area above the spool. Therefore, fluid pressure is the same (balanced) on both ends of the spool. When screw is turned inward to reduce flow, only the sliding friction of the spool in the body has to be overcome. Unadjustable flow from port 1 to port 2 is possible under some circumstances.

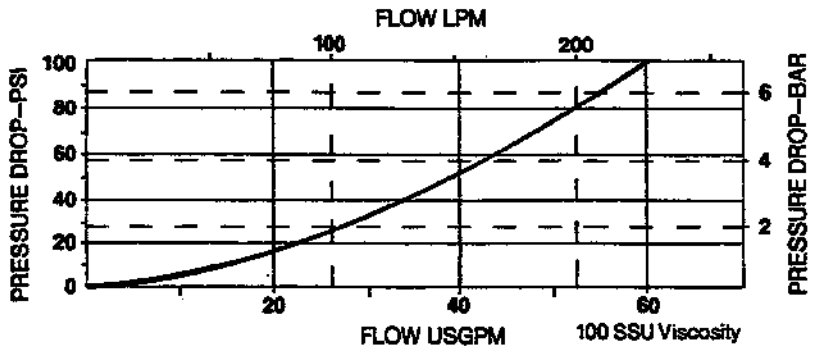
Features

The valve is hydraulically balanced and can be adjusted, even at 5000 psi, in either direction with finger tip ease. Cartridge valve is constructed of steel parts, operating parts are hardened and ground as required. Cartridge is designed for easy service or field repairs. A stepping motor drive can be added for open or closed loop control.

Specifications

Nominal flow to—60 gpm (227,4 lpm)
Maximum operating pressure—
5000 psi (345 bar)
Turn, full open to close—5 turns
Torque to adjust valve when under maximum pressure—(port 2 to 1) to raise pressure = 1.0 in. lb. (0.113 Nmm), to reduce pressure = 0.44 in. lb. (0.049 Nmm)
Maximum shut-off leakage at rated pressure—
5 drops per minute
Viscosity range—27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals—Viton
Operating temperature—-40°F to 350°F (-39,6°C to 175°C)
Filtration—Maintain SAE Class 6, ISO 18/15
Seal kit—HSSK-1200-F

Performance Curve



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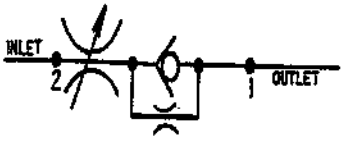
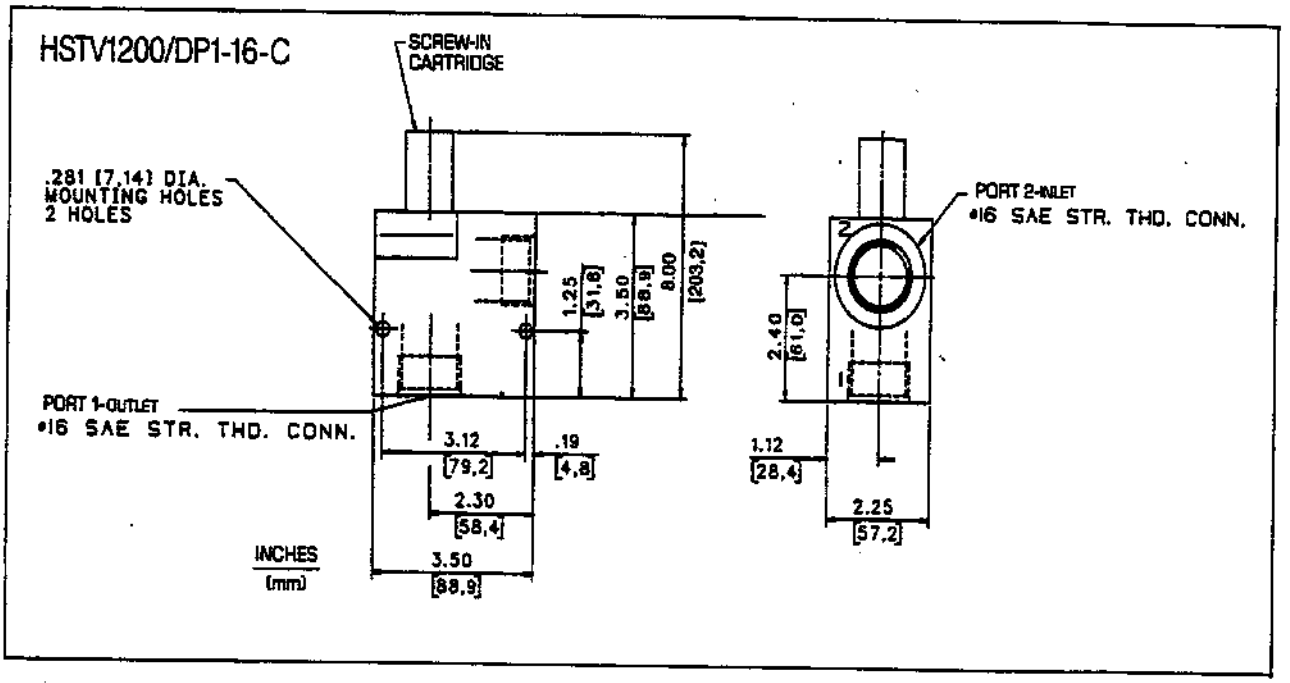
Reissued: Nov., 1995

DS 84360-A4.2



Data Sheet — Throttle Valve

Line Mount Specifications



How To Order

Screw-In Cartridge Only

HSTV1200- ____

	Adjuster
Blank	Plastic knob (Std)
K	Knurled knob

Cartridge With Line Mount Block

HSTV1200-__/DP1-16-C

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

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

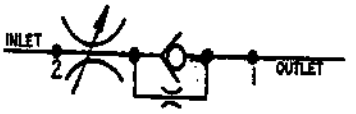
Oilgear

VALVE, SCREW-IN CARTRIDGE

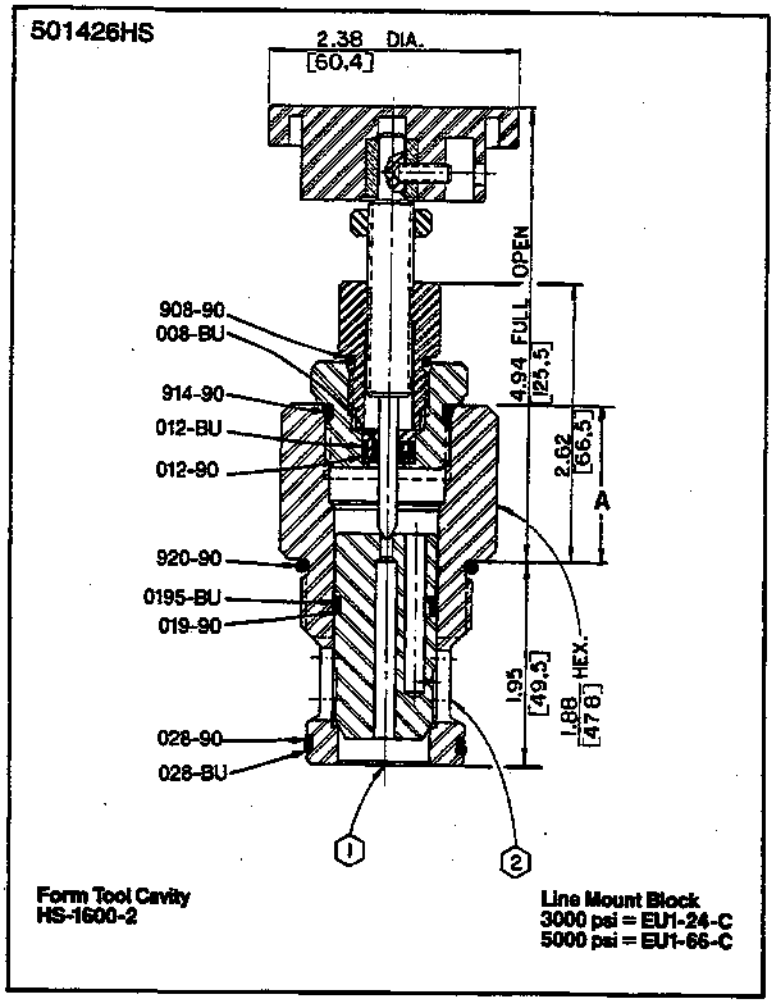
83 GPM △ 100 PSI
(314,6 LPM △ 6,9 Bar)

HSTV1601

ENGINEERING | 1



Data Sheet — **Throttle Valve**



Application

The HSTV valve is a low torque—fast acting, non-compensated adjustable orifice (port 2 to 1) used to meter-in, meter-out, or bleed-off circuits to control fluid flow volume.

Operation

The adjusting screw is separate from the main spool. Turning the screw outward connects the upper area of the spool to the low pressure port 1 and allows port 2 pressure (flow) to act on the annular area of the main spool and raise it until the point of the screw seals a passage to port 1 drilled thru the spool. Port 2 is also connected thru a balancing orifice and another drilled passage to the area above the spool. Therefore, fluid pressure is the same (balanced) on both ends of the spool. When screw is turned inward to reduce flow, only the sliding friction of the spool in the body has to be overcome. Unadjustable flow from port 1 to port 2 is possible under some circumstances.

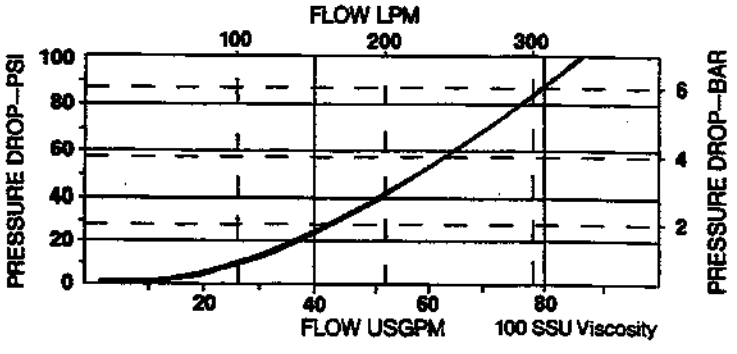
Features

The valve is hydraulically balanced and can be adjusted, even at 5000 psi, in either direction with finger tip ease. Cartridge valve is constructed of steel parts, operating parts are hardened and ground as required. Cartridge is designed for easy service or field repairs. A stepping motor drive can be added for open or closed loop control.

Specifications

Nominal flow to—83 gpm (314,6 lpm)
Maximum operating pressure—
5000 psi (345 bar)
Turn, full open to close—8 turns
Torque to adjust valve when under maximum pressure—(port 2 to 1) to raise pressure = 0.63 in. lb. (0.07 Nmm), to reduce pressure = 0.38 in. lb. (0.04 Nmm)
Maximum shut-off leakage at rated pressure—
5 drops per minute
Viscosity range—27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals—Viton
Operating temperature—-40°F to 350°F (-39,6°C to 175°C)
Filtration—Maintain SAE Class 6, ISO 18/15
Seal kit—HSSK-1600-F

Performance Curve



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

Reissued: Nov., 1995

DS 84360-A4.3

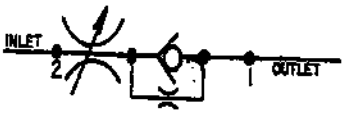
Oilgear

VALVE, SCREW-IN CARTRIDGE

83 GPM △ 100 PSI
(314,6 LPM △ 6,9 Bar)

HSTV1601

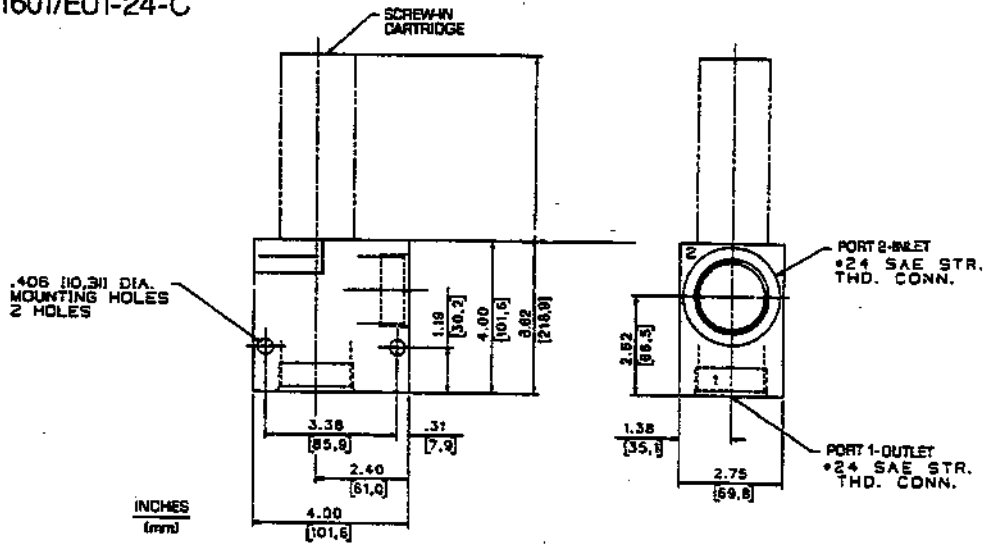
ENGINEERING | 2



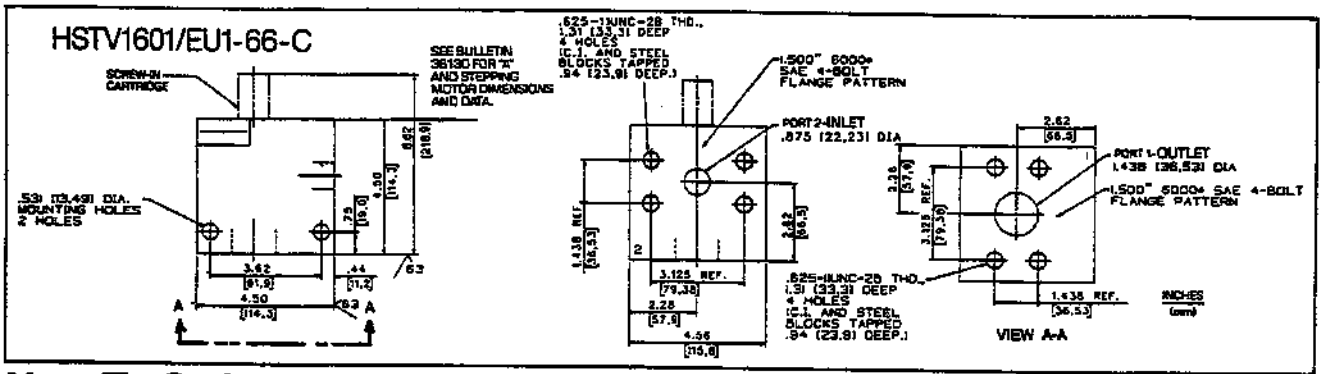
Data Sheet — Throttle Valve

Line Mount Specifications

HSTV1601/EU1-24-C



HSTV1601/EU1-66-C



How To Order

Screw-In Cartridge Only

HSTV1601-___

	Adjuster
Blank	Plastic knob (Std)
K	Knurled knob
See Bulletin 36130 for stepper motor data	

Cartridge With Line Mount Block

3000 psi (207 bar) service pressure
HSTV1601- /EU1-24-C
5000 psi (345 bar) service pressure
HSTV1601- /EU1-66-C

Reissued: Nov., 1995
DS 84360-A4.3

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

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

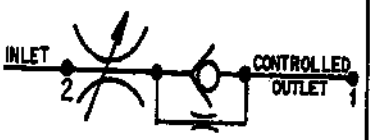
Oilgear

VALVE, SCREW-IN CARTRIDGE

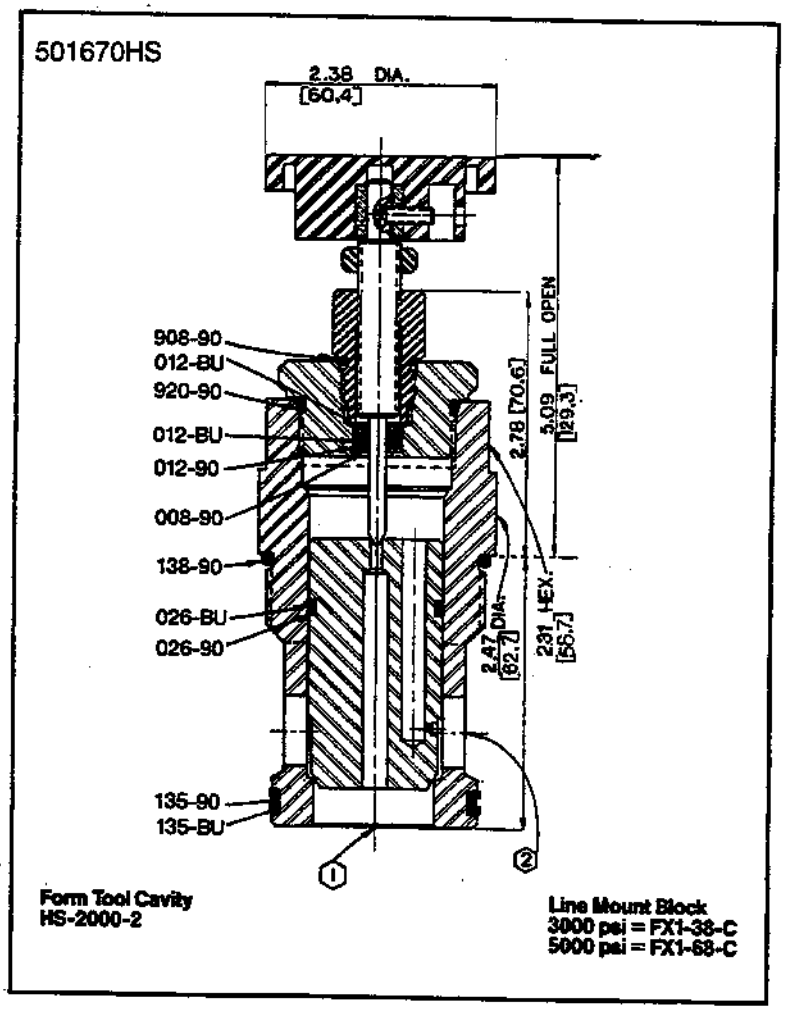
215 GPM △ 100 PSI
(814,9 LPM △ 6,9 Bar)

HSTV2001

ENGINEERING | 1



Data Sheet — **Throttle Valve**



Application

The HSTV valve is a low torque—fast acting, non-compensated adjustable orifice (port 2 to 1) used to meter-in, meter-out, or bleed-off circuits to control fluid flow volume.

Operation

The adjusting screw is separate from the main spool. Turning the screw outward connects the upper area of the spool to the low pressure port 1 and allows port 2 pressure (flow) to act on the annular area of the main spool and raise it until the point of the screw seals a passage to port 1 drilled thru the spool. Port 2 is also connected thru a balancing orifice and another drilled passage to the area above the spool. Therefore, fluid pressure is the same (balanced) on both ends of the spool. When screw is turned inward to reduce flow, only the sliding friction of the spool in the body has to be overcome. Unadjustable flow from port 1 to port 2 is possible under some circumstances.

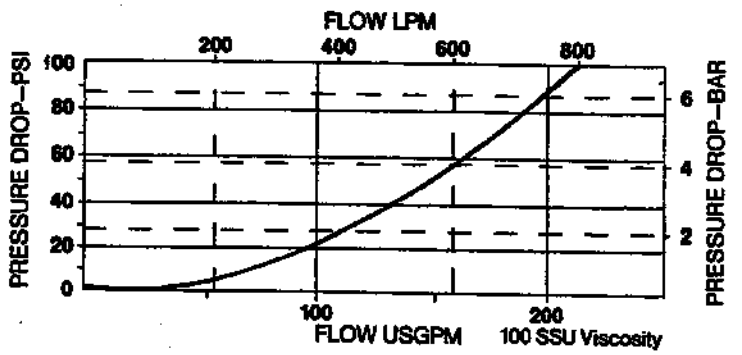
Features

The valve is hydraulically balanced and can be adjusted, even at 5000 psi, in either direction with finger tip ease. Cartridge valve is constructed of steel parts, operating parts are hardened and ground as required. Cartridge is designed for easy service or field repairs. A stepping motor drive can be added for open or closed loop control.

Specifications

Nominal flow to—215 gpm (814,9 lpm)
Maximum operating pressure—
5000 psi (345 bar)
Turn, full open to close—10 turns
Torque to adjust valve when under maximum pressure—(port 2 to 1) to raise pressure = 0.75 in. lb. (0.08 Nmm), to reduce pressure = 0.63 in lb. (0.071 Nmm)
Maximum shut-off leakage at rated pressure—
5 drops per minute
Viscosity range—27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals—Viton
Operating temperature—-40°F to 350°F
(-39,6°C to 175°C)
Filtration—Maintain SAE Class 6, ISO 18/15
Seal kit—HSSK-2000-J

Performance Curve



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

Reissued: Nov., 1995

DS 84360-A4.4

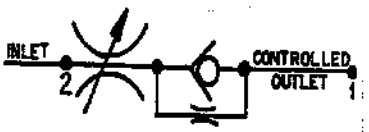
Oilgear

VALVE, SCREW-IN CARTRIDGE

215 GPM △ 100 PSI
(814,9 LPM △ 6,9 Bar)

HSTV2001

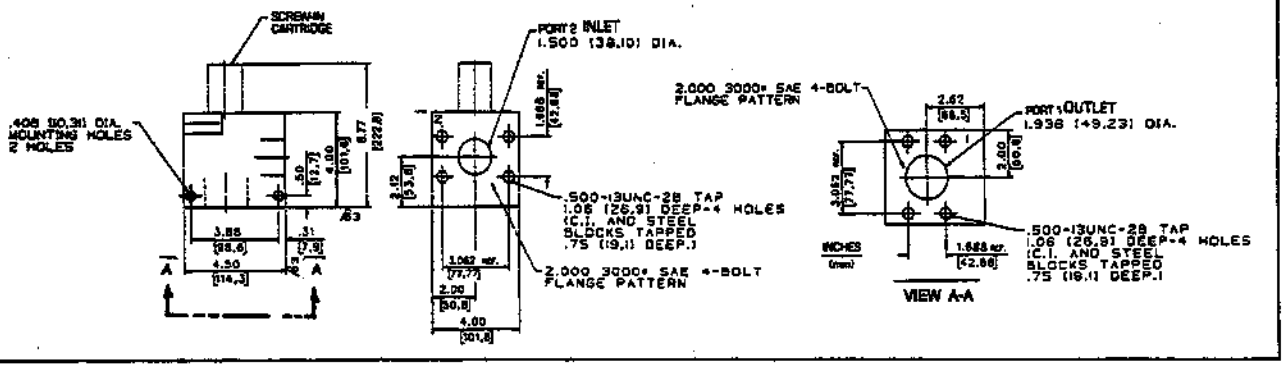
ENGINEERING | 2



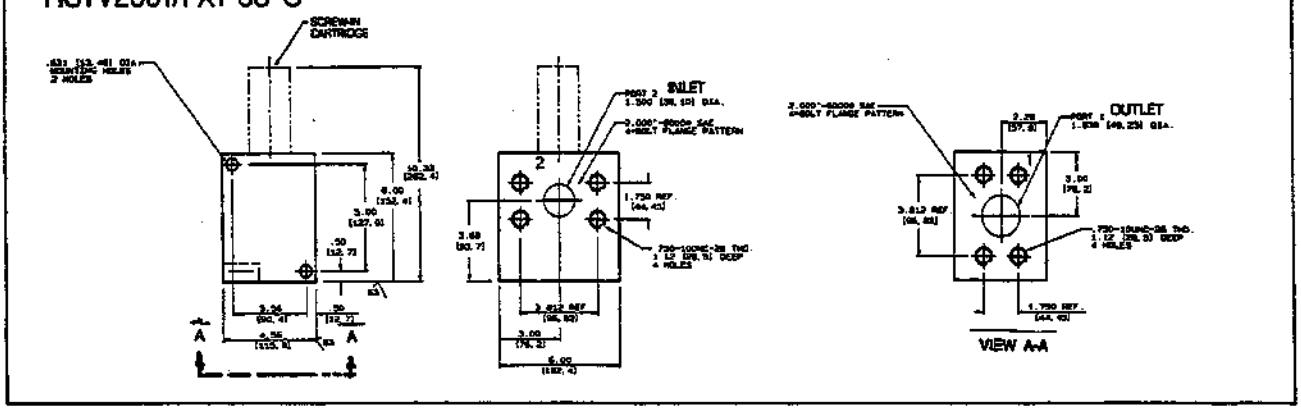
Data Sheet — Throttle Valve

Line Mount Specifications

HSTV2001/FX1-38-C



HSTV2001/FX1-68-C



How To Order

Screw-In Cartridge Only

HSTV2001 -___

	Adjuster
Blank	Plastic knob (Std)
K	Knurled knob

Cartridge With Line Mount Block

3000 psi (207 bar) service pressure
HSTV2001-__/FX1-38-C

5000 psi (345 bar) service pressure
HSTV2001-__/FX1-68-C

Reissued: Nov., 1995
DS 84360-A4.4

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

Telephone: (414) 327-1700
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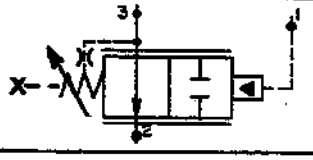
Oilgear

VALVE, SCREW-IN CARTRIDGE

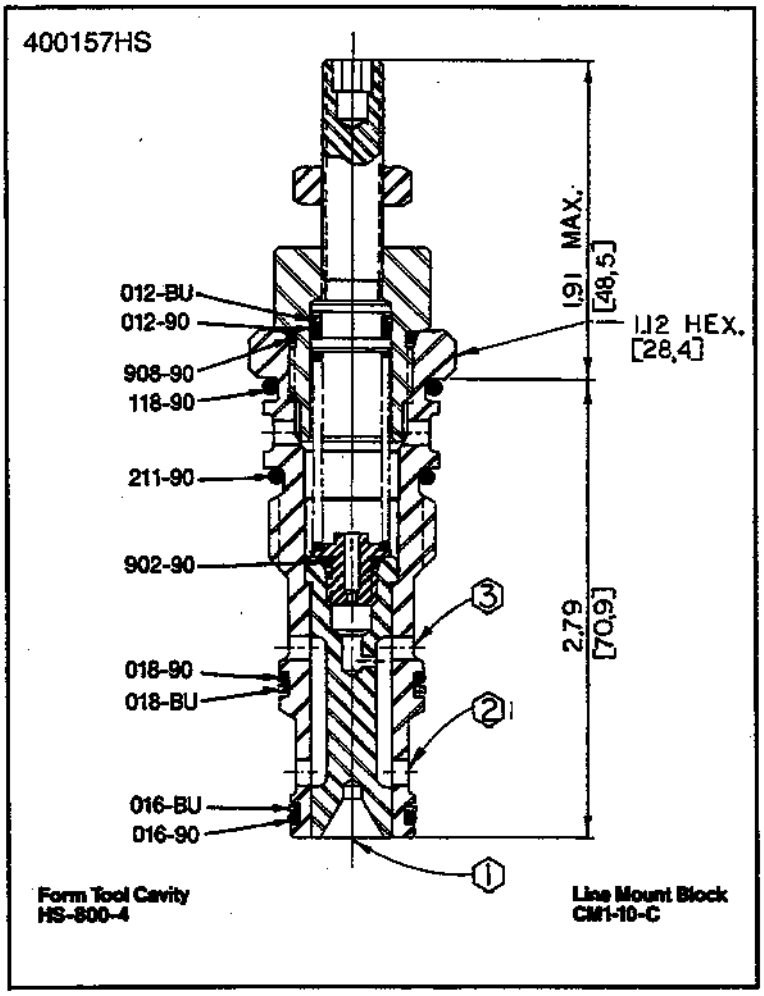
25 GPM △ 200 PSI
(94,8 LPM △ 13,8 Bar)

HSPCC800

ENGINEERING | 1



Data Sheet — Pressure Compensator Valve



Application

The valve is used in series (after) with any of our adjustable orifice (needle, throttle, flow control or restrictor) or fixed orifice valves to provide pressure compensated fluid flow volume for use in meter-in, meter-out or bleed-off circuits.

Operation

An orifice valve must be placed in the circuit before port 3 and a pilot line connection from the inlet of the orifice to port 1. As flow tends to increase, a rising pressure differential is sensed across the orifice and positions the valve to meter (lesser) flow. As flow tends to decrease, a falling pressure differential is sensed across the orifice and the spring positions the valve to allow greater flow. Therefore, it maintains a constant flow regardless of pressure variations. An adjustable spring is included to trim the differential pressure setting.

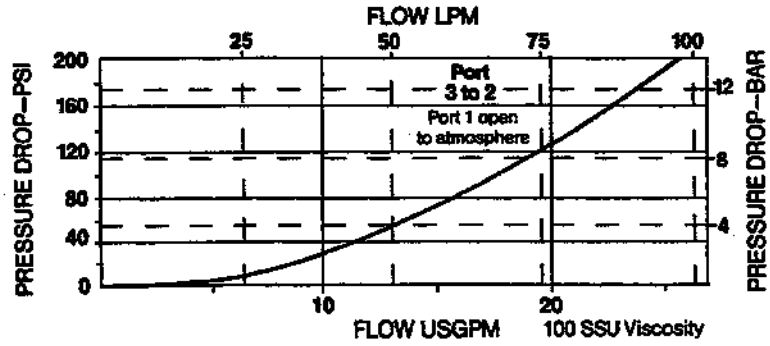
Features

Exacting flow from any orifice valve. An adjustable spring is available to trim differential setting. The valve is constructed of steel parts and operating parts are hardened and ground as required. The cartridge is designed for easy service and field repair.

Specifications

Nominal flow—25 gpm (94,8 lpm)
Maximum operating pressure—
5000 psi (345 bar)
Viscosity range—27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals—Viton
Operating temperature—-40°F to 350°F
(-39,6°C to 175°C)
Filtration—Maintain SAE Class 6, ISO 18/15
Seal kit—HSSK-800R

Performance Curve



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

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

Reissued: Nov., 1995

DS 84550-A8.2

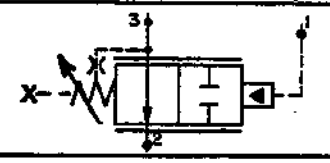
Oilgear

VALVE, SCREW-IN CARTRIDGE

25 GPM △ 200 PSI
(94,8 LPM △ 13,8 Bar)

HSPCC800

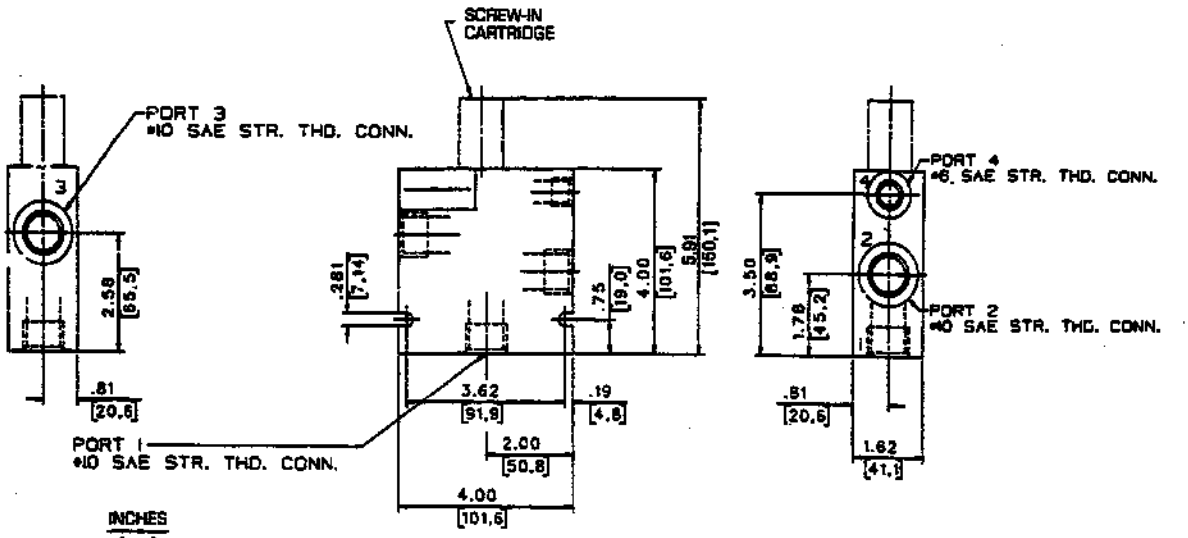
ENGINEERING | 2



Data Sheet — Pressure Compensator Valve

Line Mount Specifications

HSPCC800/CM1-10-C



How To Order

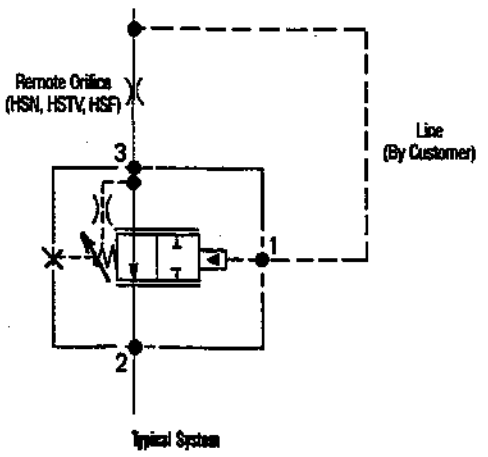
Screw-In Cartridge Only

HSPCC800

Note: A minimum pressure differential equal to or greater than the installed spring pressure is required before compensation will occur. Valve is set at 30 psi △P (2,1 bar △P) but is adjustable from 30-110 psi △P (2,1-7,6 bar △P).

Cartridge With Line Mount Block

HSPCC800/CM1-10-C



Reissued: Nov., 1995
DS 84550-A8.2

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

Telephone: (414) 327-1700
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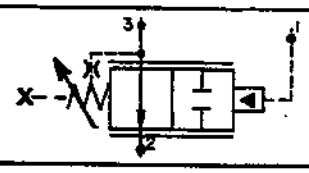
Oilgear

VALVE, SCREW-IN CARTRIDGE

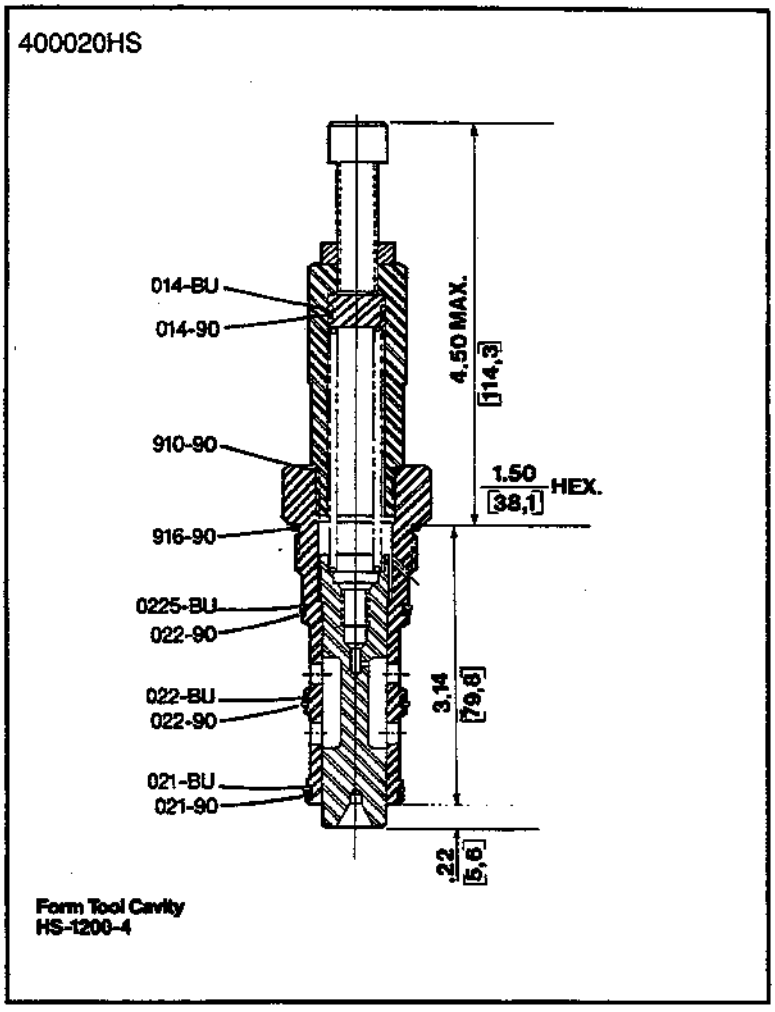
55 GPM △ 200 PSI
(208,5 LPM △ 13,8 Bar)

HSPCC1200

ENGINEERING | 1



Data Sheet — **Pressure Compensator Valve**



Application

The valve is used in series (after) with any of our adjustable orifice (needle, throttle, flow control or restrictor) or fixed orifice valves to provide pressure compensated fluid flow volume for use in meter-in, meter-out or bleed-off circuits.

Operation

An orifice valve must be placed in the circuit before port 3 and a pilot line connection from the inlet of the orifice to port 1. As flow tends to increase, a rising pressure differential is sensed across the orifice and positions the valve to meter (lesser) flow. As flow tends to decrease, a falling pressure differential is sensed across the orifice and the spring positions the valve to allow greater flow. Therefore, it maintains a constant flow regardless of pressure variations. An adjustable spring is included to trim the differential pressure setting.

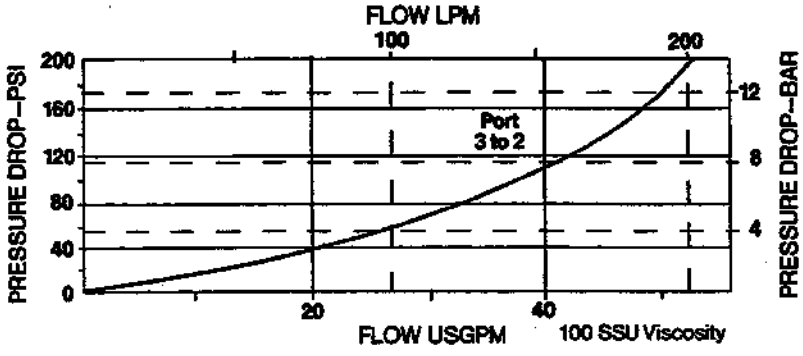
Features

Exacting flow from any orifice valve. An adjustable spring is available to trim differential setting. The valve is constructed of steel parts and operating parts are hardened and ground as required. The cartridge is designed for easy service and field repair.

Specifications

Nominal flow—55 gpm (208,5 lpm)
Maximum operating pressure—
5000 psi (345 bar)
Viscosity range—27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals—Viton
Operating temperature—-40°F to 350°F
(-39,6°C to 175°C)
Filtration—Maintain SAE Class 6, ISO 18/15
Seal kit—HSSK-1200-D

Performance Curve



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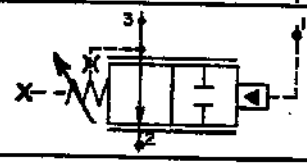
OILGEAR
2300 So. 51st. Street
Milwaukee, WI USA 53219

Reissued: Nov., 1995

DS 84550-A8.3



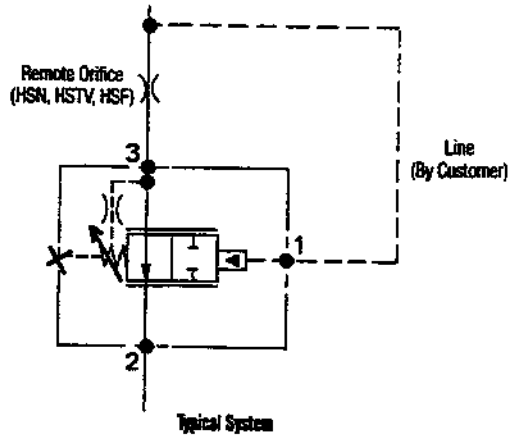
Data Sheet — Pressure Compensator Valve

How To Order

Screw-In Cartridge

HSPCC1200

Note: A minimum pressure differential equal to or greater than the installed spring pressure is required before compensation will occur. Valve is set at 40 psi △P (2,8 bar △P) but is adjustable from 40-100 psi △P (2,8-6,9 bar △P).



Typical System

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

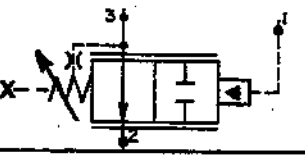
Telephone: (414) 327-1700
Fax: (414) 327-0532

VALVE, SCREW-IN CARTRIDGE

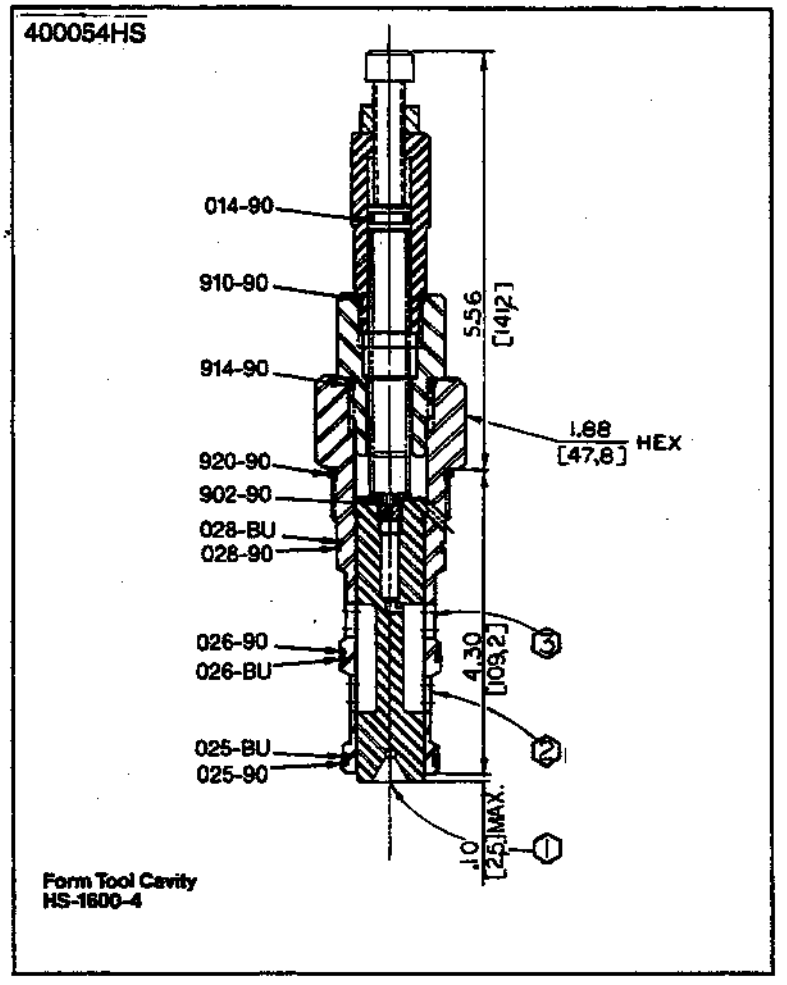
120 GPM △ 200 PSI
(454,8 LPM △ 13,8 Bar)

HSPCC1600

ENGINEERING | 1



Data Sheet — **Pressure Compensator Valve**



Application

The valve is used in series (after) with any of our adjustable orifice (needle, throttle, flow control or restrictor) or fixed orifice valves to provide pressure compensated fluid flow volume for use in meter-in, meter-out or bleed-off circuits.

Operation

An orifice valve must be placed in the circuit before port 3 and a pilot line connection from the inlet of the orifice to port 1. As flow tends to increase, a rising pressure differential is sensed across the orifice and positions the valve to meter (lesser) flow. As flow tends to decrease, a falling pressure differential is sensed across the orifice and the spring positions the valve to allow greater flow. Therefore, it maintains a constant flow regardless of pressure variations. An adjustable spring is included to trim the differential pressure setting.

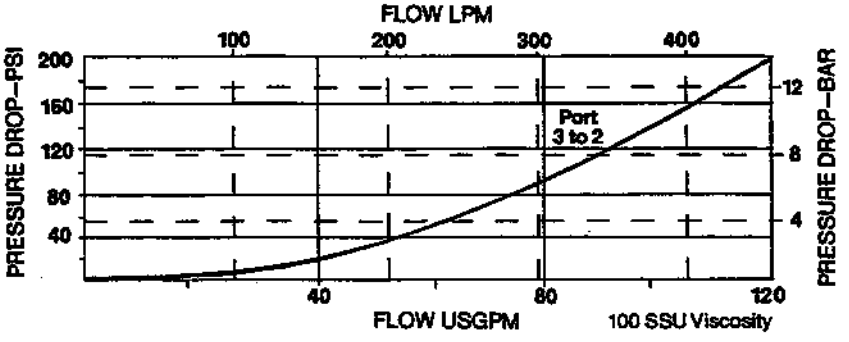
Features

Exacting flow from any orifice valve. An adjustable spring is available to trim differential setting. The valve is constructed of steel parts and operating parts are hardened and ground as required. The cartridge is designed for easy service and field repair.

Specifications

Nominal flow—120 gpm (454,8 lpm)
Maximum operating pressure—
5000 psi (345 bar)
Viscosity range—27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals—Viton
Operating temperature—-40°F to 350°F
(-39,6°C to 175°C)
Filtration—Maintain SAE Class 6, ISO 18/15
Seal kit—HSSK-1600-D

Performance Curve



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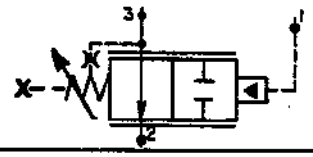
Milwaukee, WI USA 53219

Reissued: Nov., 1995

DS 84550-A8.4



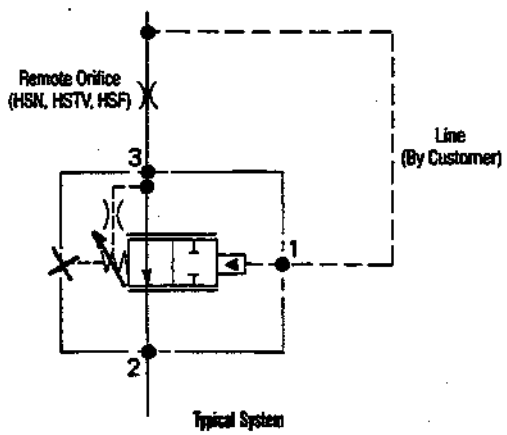
Data Sheet — Pressure Compensator Valve

How To Order

Screw-In Cartridge

HSPCC1600

Note: A minimum pressure differential equal to, or greater than the installed spring pressure is required before compensation will occur. Valve is set at 75 psi △ P (5,2 bar △ P) but is adjustable from 40-145 psi △ P (2,8 -10 bar △ P).



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

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

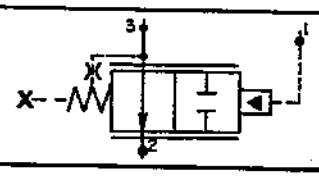
Oilgear

VALVE, SCREW-IN CARTRIDGE

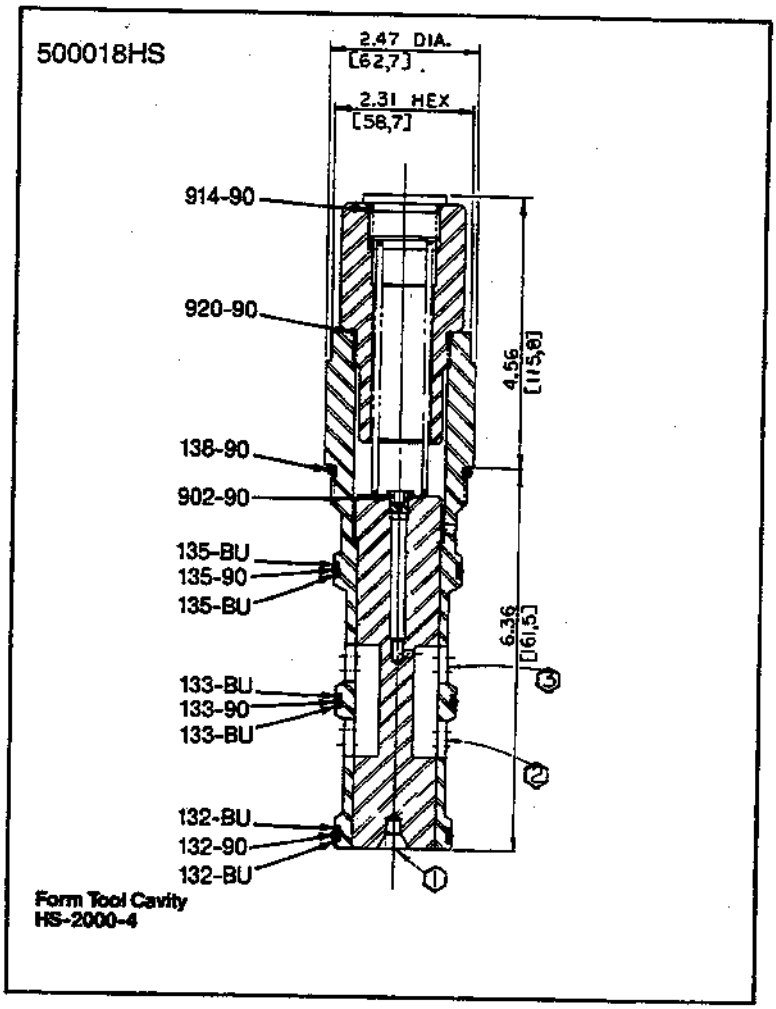
230 GPM △ 200 PSI
(871,7 LPM △ 13,8 Bar)

HSPCC2000

ENGINEERING | 1



Data Sheet — **Pressure Compensator Valve**



Application

The valve is used in series (after) with any of our adjustable orifice (needle, throttle, flow control or restrictor) or fixed orifice valves to provide pressure compensated fluid flow volume for use in meter-in, meter-out or bleed-off circuits.

Operation

An orifice valve must be placed in the circuit before port 3 and a pilot line connection from the inlet of the orifice to port 1. As flow tends to increase, a rising pressure differential is sensed across the orifice and positions the valve to meter (lesser) flow. As flow tends to decrease, a falling pressure differential is sensed across the orifice and the spring positions the valve to allow greater flow. Therefore, it maintains a constant flow regardless of pressure variations. An adjustable spring is included to trim the differential pressure setting.

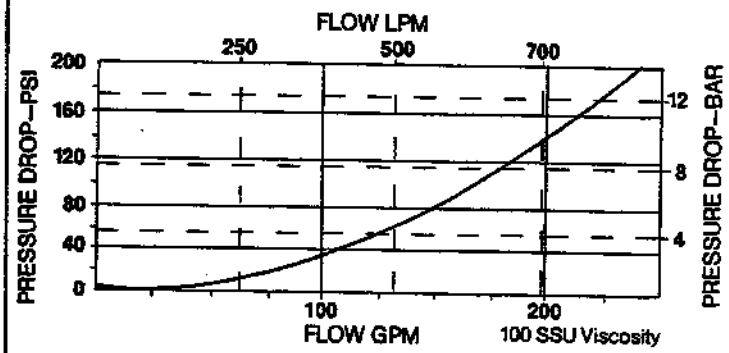
Features

Exacting flow from any orifice valve. An adjustable spring is available to trim differential setting. The valve is constructed of steel parts and operating parts are hardened and ground as required. The cartridge is designed for easy service and field repair.

Specifications

Nominal flow—230 gpm (871,7 lpm)
Maximum operating pressure—
5000 psi (345 bar)
Viscosity range—27-30 SSU at 100°F
35-2000 SSU at 100°F
Seals—Viton
Operating temperature—-40°F to 350°F
(-39,6°C to 175°C)
Filtration—Maintain SAE Class 6, ISO 18/15
Seal kit—HSSK-2000-D

Performance Curve



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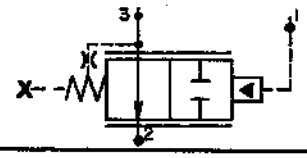
2300 So. 51st. Street
Milwaukee, WI USA 53219

Reissued: Nov., 1995

DS 84550-A8.5



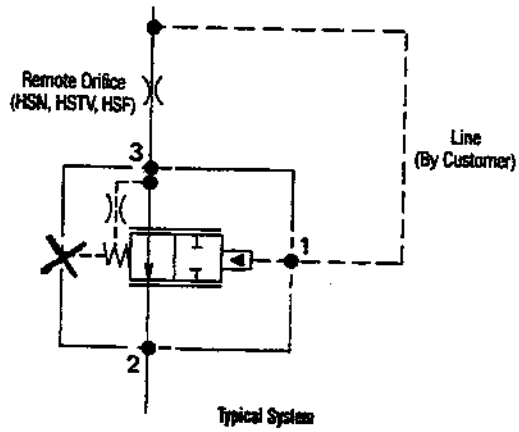
Data Sheet — Pressure Compensator Valve

How To Order

Screw-In Cartridge

HSPCC2000

Note: A minimum pressure differential equal to, or greater than the installed spring pressure is required before compensation will occur. Valve starts to meter at 75 psi Δ P (5,2 bar Δ P).



Typical System

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

Telephone: (414) 327-1700
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