

ContaminationSensor Module Economy 1000

CSM-E



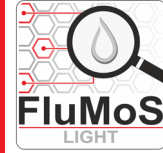
Features and Benefits

- Modular, cost-effective system for flexible combination with various fluid sensors:
 - ContaminationSensor (CS1000) for measuring the solid particle contamination
 - AquaSensor (AS1000 or AS3000) for measuring the water saturation
 - HydaLab (HLB1400) for determining the fluid condition
 - Also available for pumps with high inlet pressures
- ### Markets
- Monitoring lubrication systems in the paper, steel, and energy industries
 - Monitoring diesel in fuel reservoirs
 - Component cleanliness monitoring in test benches
 - Monitoring of oil cleanliness in tanks and pressure lines
 - When no pressure is present at the measurement point
 - As a tool for preventative and proactive maintenance strategies

The ContaminationSensor Module Economy (CSM-E) 1000 is a compact and cost-effective online Condition Monitoring module for conditioning the flow rate of hydraulic and lubricating fluids and diesel fuels. It is used together with fluid sensors to measure solid particle contamination, water saturation, and oil ageing. The CSM-E consists of a pump/motor group, air releasing path, and inline sensor installation. Furthermore, the optionally available data storage and network communication module CSI-C-11 makes it possible to upgrade the CSM-E to form a compact, IoT condition monitoring solution for fluids..

Operating pressure, maximum (INLET):	CSM-E-CS1x20-...-1-...: -5.8 to 7.3 psi (-0.4 to 0.5 bar) CSM-E-CS1x20-...-2-...: -5.8 to 1,740 psi (-0.4 to 120 bar) CSM-E-CS1x20-...-4-...: -5.8 to 1,160 psi (-0.4 to 80 bar)
Operating pressure, maximum (OUTLET):	72.5 psi (5 bar)
Leakage Oil (LEAK):	CSM-E-CS1x20-...-1-...: N/A CSM-E-CS1x20-...-2-...: 7.3 psi (0.5 bar) CSM-E-CS1x20-...-4-...: N/A
Hydraulic Connections (INLET):	G ¼ acc. ISO 228-1
Hydraulic Connections (OUTLET):	G ¼ acc. ISO 228-1
Leakage Oil (LEAK):	CSM-E-CS1x20-...-1-...: N/A CSM-E-CS1x20-...-2-...: G ¼ acc. ISO 228-1 CSM-E-CS1x20-...-4-...: N/A
Permitted viscosity range (operation):	CSM-E-CS1x20-...-1-...: 60 to 13,900 SUS CSM-E-CS1x20-...-2-...: 60 to 13,900 SUS CSM-E-CS1x20-...-4-...: 32 to 4,635 SUS
Permitted viscosity range (measurement):	CSM-E-CS1x20-...-1-...: 60 to 4,635 SUS CSM-E-CS1x20-...-2-...: 64 to 4,635 SUS CSM-E-CS1x20-...-4-...: 32 to 3,708 SUS
Flow Rate (for 1,800 rpm):	CSM-E-CS1x20-...-1-...: max. 156 mL/min CSM-E-CS1x20-...-2-...: max. 216 mL/min CSM-E-CS1x20-...-4-...: max. 336 mL/min
Permitted Fluids:	CSM-E-CS1x20-...-1-...: Mineral based hydraulic and lubrication oils CSM-E-CS1x20-...-2-...: Mineral based hydraulic and lubrication oils CSM-E-CS1x20-...-4-...: Mineral based hydraulic and lubrication oils + Diesel
Pump Type:	Gear pump
Suction Height:	max. 1.6 ft.
Fluid temperature range:	32°F to 185°F (0°C to 85°C)

- Compatible with:



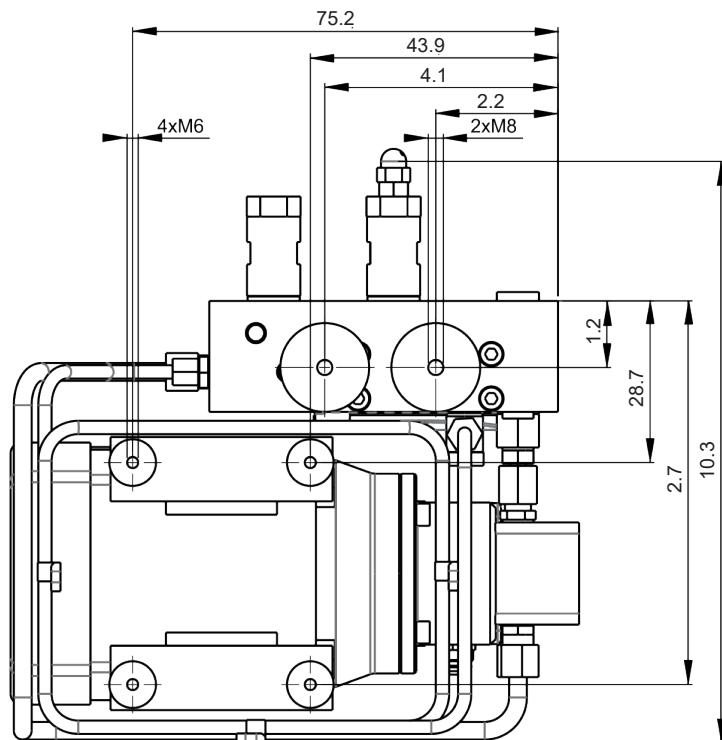
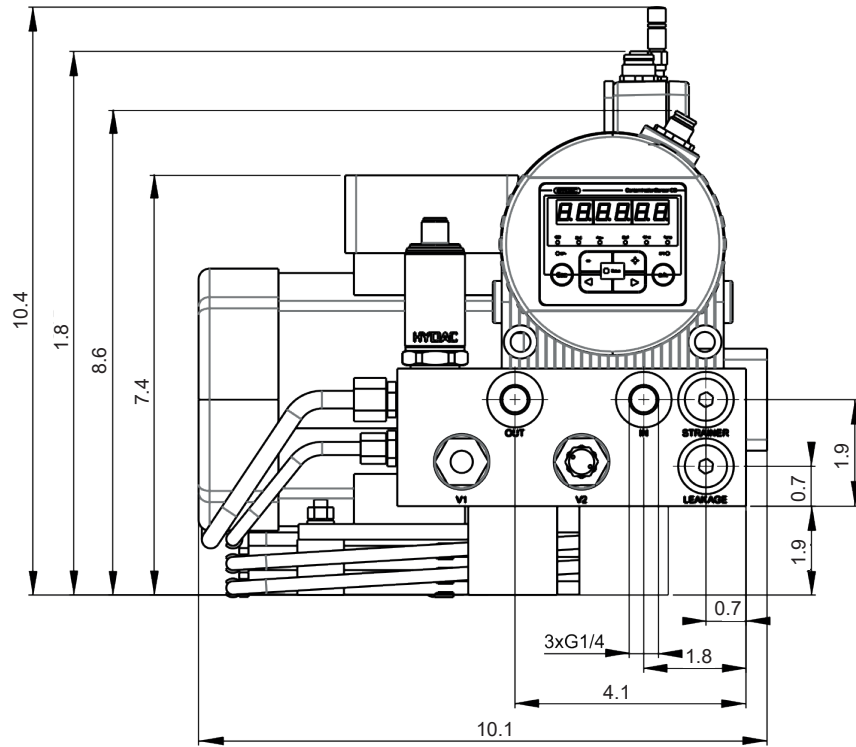
Description

Specifications

CS 1000
CS 1939
CSI-C-11
HY-TRAX®
RBSA
CSM
FCU
MCS
AS
SMU
CTU
EPK
Trouble
Check Plus
HMG2500
HMG4000
ET-100-6
HTB
RFSa
HFS-BC
HFS-15
MFD-BC
MFS, MFD
HY-TRAX®
Retrofit System
MFD-MV
MFS-HV
AMS, AMD
FS
AMFS
KLS, KLD
MCO
AKS, AKD
LSN, LSA, LSW
X Series
OLF Compact
OLF
OLF-P
NxTM
VEU-F
IXU
Triton-A
Triton-E
NAV
SVD01
SVD
OXS
Appendix

Dimensions

CSM-E with CS1000, AS1000, and CSI-C-11

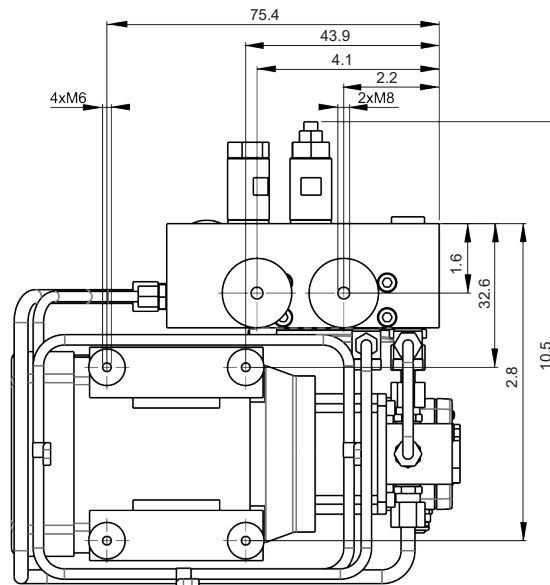
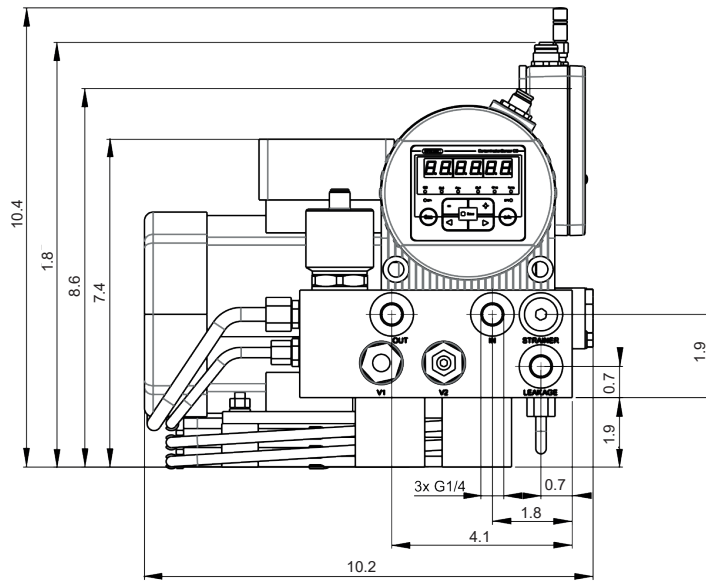


Dimensions in inches.

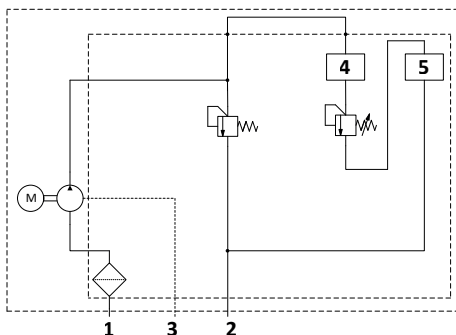
ContaminationSensor Module Economy 1000

CSM-E

CSM-E with CS1000, AS1000, and CSI-C-11



Dimensions in inches.



Item	Designation
1	Inlet (IN)
2	Outlet (OUT)
3	Leakage (LEAK) *
4	ContaminationSensor CS
5	AquaSensor AS or HydacLab HLB

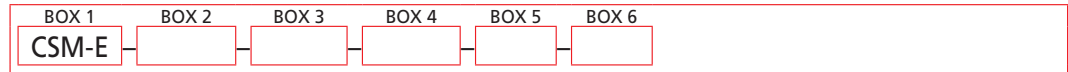
*CSM-E-CS1x20-...-2-... only

Hydraulic connections/
circuit diagram

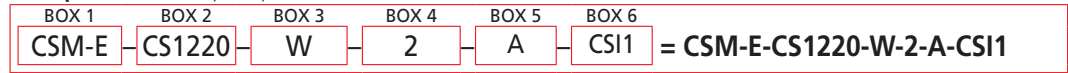
- CS 1000
- CS 1939
- CSI-C-11
- HY-TRAX®
- RBSA
- CSM
- FCU
- MCS
- AS
- SMU
- CTU
- EPK
- Trouble Check Plus
- HMG2500
- HMG4000
- ET-100-6
- HTB
- RFSA
- HFS-BC
- HFS-15
- MFD-BC
- MFS, MFD
- HY-TRAX® Retrofit System
- MFD-MV
- MFS-HV
- AMS, AMD
- FS
- AMFS
- KLS, KLD
- MCO
- AKS, AKD
- LSN, LSA, LSW
- X Series
- OLF Compact
- OLF
- OLF-P
- NxTM
- VEU-F
- IXU
- Triton-A
- Triton-E
- NAV
- SVD01
- SVD
- OXS
- Appendix

Model Number Selection

How to Build a Valid Model Number for a Schroeder CSM-E:



Example: NOTE: One option per box



BOX 1	BOX 2
Series	Particle Contamination Sensor
CSM-E	CS1220 = CS1220-A-0-0-0-1/-000
	CS1320 = CS1320-A-0-0-0-1/-000

BOX 3
Optional Sensors
Omit = None-plugged port, set up for AS1000/AS3000
W = AS1008-C-000
WD = AS3008-5-000
HLB1 = HLB14J8-1C000-000
HLB2 = HLB14J8-00S12-000

BOX 4
Hydraulic version
1 = gear pump, standard
2 = gear pump, inlet pressure-stability w/ drain
4 = gear pump, magnetically coupled, inlet pressure-stability without drain line

BOX 5
Power Supply
Omit = 120V AC, 60 Hz, 1 Ph
W/N/X60/O60 = 230V, 50 Hz, 3 Ph / 265V, 60 Hz, 3 Ph
400V, 50 Hz, 3 Ph / 460V, 60 Hz, 3 Ph

BOX 6
Supplementary Details
000 = None
CS11 = CSI-C-11-0-0-0/-000
CS12 = CSI-C-11-0-0-1/-000

----- Select Options -----

Build A Unit For You!

ContaminationSensor CS1000	P/N
CD FluMoS light	3141522 <input type="checkbox"/>
ZBE42S-02 Mating connector 8-pin with cable, length = 2m	3281220 <input type="checkbox"/>
ZBE42S-05 Mating connector 8-pin with cable, length = 5m	3281239 <input type="checkbox"/>
ZBE43-05 Extension cable, connector male/female 8-pin, length = 5m	3281240 <input type="checkbox"/>
ZBE43-10 Extension cable, connector male/female 8-pin, length = 10m	3519768 <input type="checkbox"/>
ZBE44 Mating connector 8-pin, shielded, with screw terminals	3281243 <input type="checkbox"/>
ZBE43-005 Connecting cable CSI-C-11, connector male/female, 8-pin, length = 0.5 m	4193544 <input type="checkbox"/>
ConditionSensor Interface CSI-C-11	P/N
PS5 Power supply unit 100–240 V AC, 50–60 Hz, 1.1 A, IP40; Connector M12, 5-pin, female	3399939 <input type="checkbox"/>
ZBE47S-05 Connection cable, mating connector 5-pin with cable, length = 5m	3527626 <input type="checkbox"/>
ZBE47S-10 Connection cable mating connector 5-pin with cable, length = 10m	3527627 <input type="checkbox"/>
ZBE 45-05 Network cable (patch), mating connector, 4-pin, d-encoded / male connector RJ45, length = 5m	3346100 <input type="checkbox"/>
ZBE 45-10 Network cable (patch), mating connector, 4-pin, d-encoded / male connector RJ45, length = 10m	3346101 <input type="checkbox"/>
ZBE CSI 60	
Sensor connection adapter 4x analog female connector 8-pin, cable length = 1 m	4420372 <input type="checkbox"/>
For CSI2 (CSI-C-11-0-0-1/-000) option only	
AquaSensor AS / HydaLab Cables	P/N
ZBE08S-02 Mating connector, 5-pin, angled, with cable, length = 2m	6019455 <input type="checkbox"/>
ZBE08S-05 Mating connector, 5-pin, angled, with cable, length = 5m	6019456 <input type="checkbox"/>
ZBE08S-10 Mating connector, 5-pin, angled, with cable, length = 10m	6023102 <input type="checkbox"/>
ZBE08 Mating connector, 5-pin, angled, shielded, with screw terminals	6006786 <input type="checkbox"/>
ZBE30-005 Connecting cable CSI-C-11, connector male/female, 5-pin, length = 0.5 m	4193586 <input type="checkbox"/>
Pressure Gauge Kit for CSM-E	P/N
0-60 BAR Pressure Gauge Kit	3942792 <input type="checkbox"/>