



PRODUCT ORDER CODE: DCM-20

EFFECTIVE: January 1<sup>st</sup>, 2022

KxS Technologies INLINE OPTICAL BRIX MONITOR provides real-time measurements in sanitary process applications. The instrument integration to process environments and control systems with industrial standard communication protocols is flexible with stand-alone Brix refractometer setups, as well as optional modular connection units and external displays.

| KxS Sensor and Applications Specification Form – DCM-20 |                                 |                               |           |
|---------------------------------------------------------|---------------------------------|-------------------------------|-----------|
| User Company:                                           | Measurement Unit:               | Brix                          | Conc %wt  |
| Address, City:                                          |                                 | nD                            | nD@ T Ref |
| Contact Person:                                         | Process Pipe Size:              |                               |           |
| Process Liquid:                                         | Installation Type:              | Industry Standard Connections |           |
| Measurement Range:                                      | Weld                            |                               |           |
| Process Temperature and Pressure :                      | Order Information: P.O. Number: |                               |           |
|                                                         | Required Date:                  |                               |           |

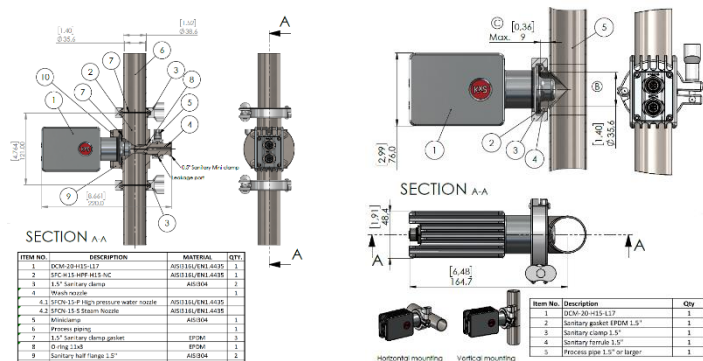
|                    |       |
|--------------------|-------|
| Form Completed By: | Date: |
|                    |       |

**INLINE OPTICAL BRIX MONITOR DCM-20 FOR REAL-TIME MEASUREMENTS IN SANITARY PROCESS APPLICATIONS**

| Model and description                                                                                                                                                                                                                                                                   | DRW No.                                                                 | Part No. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|----------|
| <b>Digital concentration monitor (refractometer)</b>                                                                                                                                                                                                                                    |                                                                         |          |
| DCM-20, 3-A and EHEDG certified                                                                                                                                                                                                                                                         |                                                                         |          |
| <b>Prism material</b>                                                                                                                                                                                                                                                                   |                                                                         |          |
| -SR = Sapphire optical window<br>Standard range RI 1.320-1.530 nD (0-100 Brix)                                                                                                                                                                                                          |                                                                         |          |
| <b>Connection type and size</b>                                                                                                                                                                                                                                                         |                                                                         |          |
| -H15-L17 = 1.5" Sanitary Tri-clamp, insertion length 17mm<br>-H25-L14 = 2.5" Sanitary Tri-clamp, insertion length 14mm<br>-V68-L07 = Varinline 68mm, insertion length 7mm <b>(A)</b><br>-T10-L00 = Tank bottom flange MT4 DN25/T10 <b>(A)(B)</b><br>-K42-L17 = L-coupling <b>(A)(C)</b> | 10032 (DIM)<br>10095 (DIM)<br>10097 (DIM)<br>10106 (DIM)<br>10124 (DIM) |          |
| <b>Refractometer wetted parts material</b>                                                                                                                                                                                                                                              |                                                                         |          |
| -SS = 316L / EN 1.4435 (Ra 0.38 µm, 15 µ inch)<br>-HC = Hastelloy C276 / EN 2.4819                                                                                                                                                                                                      |                                                                         |          |
| <b>Electrical classification</b>                                                                                                                                                                                                                                                        |                                                                         |          |
| -UC = Unclassified area, ordinary location                                                                                                                                                                                                                                              |                                                                         |          |
| <b>Polishing option</b>                                                                                                                                                                                                                                                                 |                                                                         |          |
| -EP = Electropolished (Ra 0.38 µm, 15 µ inch)                                                                                                                                                                                                                                           |                                                                         |          |

**(A)** Supplied in 316 L / EN 1.4404**(B)** 3A but not EHEDG**(C)** Industrial connection, no sanitary certifications**CABLES FOR DCM-20 AND INTERFACES**

| Model and description                                                                                                                               | DRW No. | Part No. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|
| <b>Identical M12 8 pin cable for both analog and digital Modbus TCP output ports, incl. power supply</b>                                            |         |          |
| SP-9000 = M12 8 pin x-code male shielded cable, free ends, PUR outer shield                                                                         |         | SP-9000  |
| <b>Cable length</b>                                                                                                                                 |         |          |
| -002 = 2m, 6ft<br>-005 = 5m, 16ft<br>-010 = 10m, 32ft                                                                                               |         |          |
| <b>Cable connectors</b>                                                                                                                             |         |          |
| -RJ45 = RJ-45 connector attached to the cable data wires, power wires free<br>-RJ45-PW = RJ-45 connector attached to the cable data and power wires |         |          |
| <b>Ethernet cables with RJ-45 connectors for interface connection</b>                                                                               |         |          |
| SP-9100 = Ethernet CAT6 shielded cable with RJ-45 connectors both ends                                                                              |         | SP-9100  |
| <b>Cable length</b>                                                                                                                                 |         |          |
| -003 = 3 m, 9 ft<br>-005 = 5m, 16 ft<br>-010 = 10m, 32 ft                                                                                           |         |          |

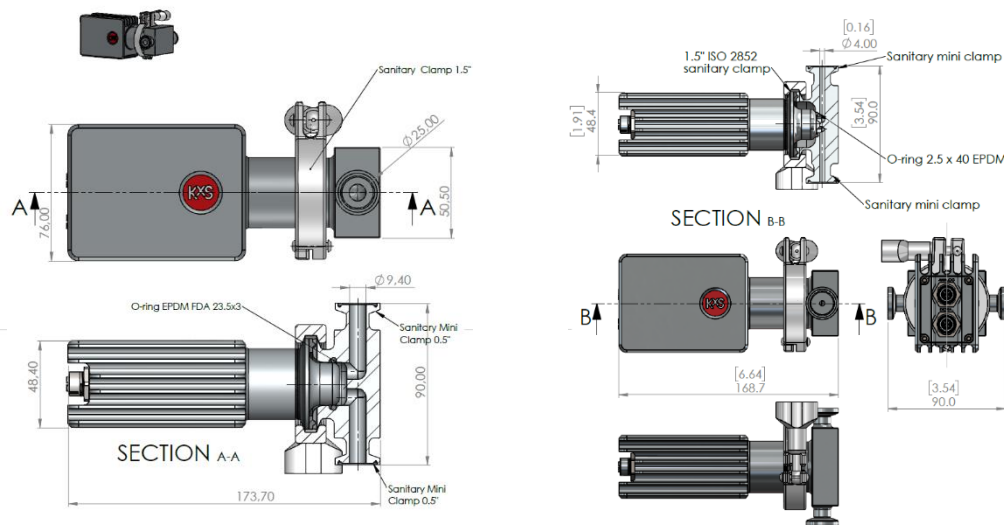
**SINGLE-PIECE FLOW CELLS WITH SANITARY TRI-CLAMP CONNECTION**

| Model and description                                                            | DRW No.     | Part No. |
|----------------------------------------------------------------------------------|-------------|----------|
| <b>Single-piece Flow cell 3-A and EHEDG certified in combination with DCM-20</b> |             |          |
| SFC                                                                              |             |          |
| <b>Sensor connection</b>                                                         |             |          |
| -H15 = 1.5" (A)                                                                  |             |          |
| <b>Clamp connection type</b>                                                     |             |          |
| -HPF = Sanitary high-pressure flange ISO 2852, 40 bar                            |             |          |
| <b>Process connection</b>                                                        |             |          |
| -H = Hygienic                                                                    |             |          |
| <b>Pipe size diameter</b>                                                        |             |          |
| 10 = 25mm - 1"                                                                   | 10267/10287 |          |
| 15 = 40mm - 1.5"                                                                 | 10268/10288 |          |
| 20 = 50mm - 2"                                                                   | 10269/10289 |          |
| 25 = 65mm - 2.5"                                                                 | 10270/10290 |          |
| 30 = 80mm - 3"                                                                   | 10271/10301 |          |
| 40 = 100mm - 4"                                                                  | 10273/10296 |          |
| <b>Material</b>                                                                  |             |          |
| -SS Stainless steel 316L / EN1.4435 (Ra 0.38 µm, 15µ inch)                       |             |          |
| <b>Polishing option</b>                                                          |             |          |
| -EP = Electropolished                                                            |             |          |
| <b>Wash nozzle connection (B) (C)</b>                                            |             |          |
| -NC = Nozzle connection                                                          |             |          |
| <b>Wash nozzle type</b>                                                          |             |          |
| -WN = Water nozzle                                                               |             |          |
| -SN = Steam nozzle                                                               |             |          |
| -BN = Blind nozzle                                                               |             |          |
| <b>Nozzle o-ring wetted material</b>                                             |             |          |
| -E = EPDM                                                                        |             |          |
| -V = FKM                                                                         |             |          |

(A) One EHEDG certified seal for sensor connection included in each SFC

(B) Wash nozzle 3-A certified, but not EHEDG certified

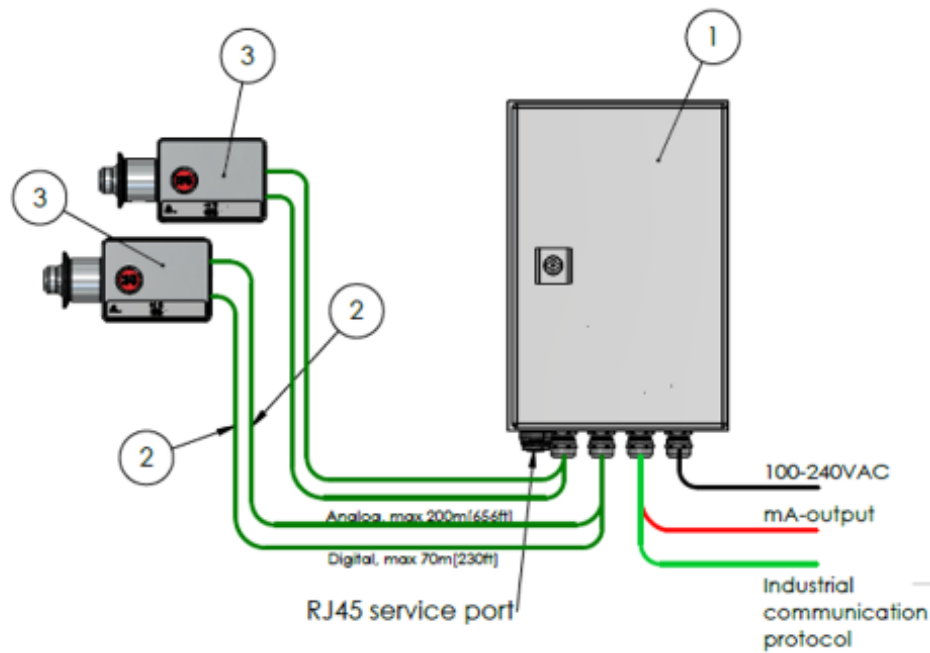
(C) Wash nozzle connection without electropolish option



#### PHARMA SINGLE-PIECE FLOW CELLS WITH SANITARY CLAMP CONNECTION

| Model and description                                                                                                                                                                                                                                 | DRW No.                                     | Part No.                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|----------------------------------------------------------------------|
| <b>Pharma Single-piece Flow cell</b>                                                                                                                                                                                                                  |                                             |                                                                      |
| PSFC (C)                                                                                                                                                                                                                                              |                                             |                                                                      |
| <b>Sensor connection</b>                                                                                                                                                                                                                              |                                             |                                                                      |
| -H15 = 1.5"                                                                                                                                                                                                                                           |                                             |                                                                      |
| <b>Clamp connection type</b>                                                                                                                                                                                                                          |                                             |                                                                      |
| -SMC = Sanitary Mini-clamp, 15 bar                                                                                                                                                                                                                    |                                             |                                                                      |
| <b>Process connection</b>                                                                                                                                                                                                                             |                                             |                                                                      |
| -H = Hygienic                                                                                                                                                                                                                                         |                                             |                                                                      |
| <b>Pipe size diameter</b>                                                                                                                                                                                                                             |                                             |                                                                      |
| 004 = 4mm<br>005 = 5mm<br>006 = 6mm<br>050 = 0.5"                                                                                                                                                                                                     | 10209(MTG)<br>(MTG)<br>(MTG)<br>10214 (MTG) |                                                                      |
| <b>Wetted material</b>                                                                                                                                                                                                                                |                                             |                                                                      |
| -SS = Stainless steel 316L EN1.4435, Ra 0.38 µm (15 µ inch)                                                                                                                                                                                           |                                             |                                                                      |
| <b>Polish option</b>                                                                                                                                                                                                                                  |                                             |                                                                      |
| -EP = Electropolished                                                                                                                                                                                                                                 |                                             |                                                                      |
| <b>O-ring wetted material</b>                                                                                                                                                                                                                         |                                             |                                                                      |
| -E = EPDM<br>-V = FKM<br>-PTFE = PTFE                                                                                                                                                                                                                 |                                             |                                                                      |
| <b>Options to PSFC</b>                                                                                                                                                                                                                                |                                             |                                                                      |
| Mini-clamp - SH 1/2"-3/4" (2pcs)<br>Mini-clamp sealing EPDM OD 12 / 1/2" (2pcs)<br>Mini-clamp sealing PTFE OD 12 / 1/2" (2pcs)<br>Mini-clamp sealing EPDM OD 18 / 3/4" (2pcs)<br>Mini-clamp sealing PTFE OD 18 / 3/4" (2pcs)<br>Barb hose 1/4" (2pcs) |                                             | SP-10010<br>SP-10020<br>SP-10030<br>SP-10040<br>SP-10050<br>SP-10300 |

(C) Delivery time: 8 weeks



| Item No. | Description                       | Qty |
|----------|-----------------------------------|-----|
| 1        | MCU Modular connection unit       | 1   |
| 2        | SP-9000-... Sensor cable          | 1-4 |
| 3        | DCM Digital Concentration Monitor | 1-2 |

#### MODULAR CONNECTION UNIT

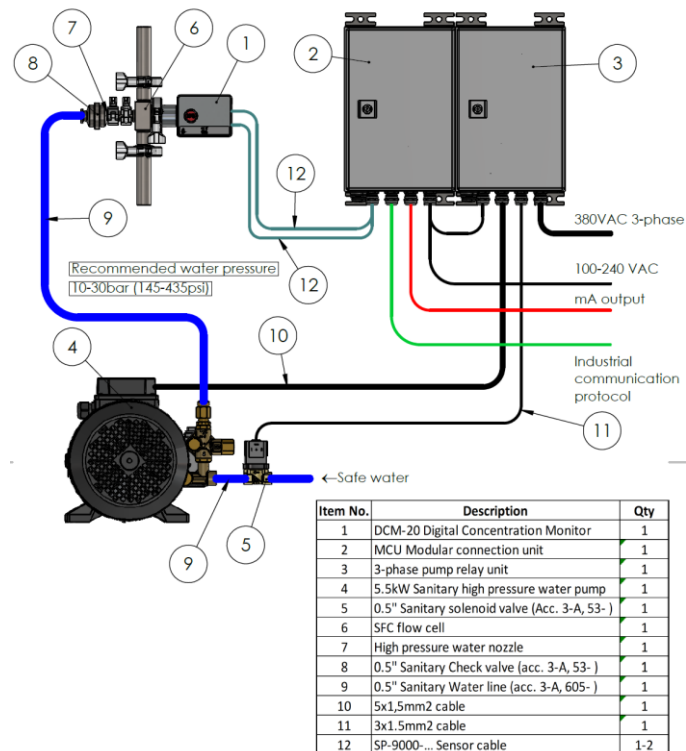
| Model and description                                                                                                                                                                                                                                                                         | DRW No.     | Part No. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------|
| <b>Modular Connection Unit MCU</b>                                                                                                                                                                                                                                                            |             |          |
| SP-8000 = MCU complete system consisting of                                                                                                                                                                                                                                                   | 10178 (DIM) | SP-8000  |
| <b>Power supply</b> = UNO-PS/1AC/24DC/ 60W, Primary-switched UNO POWER power supply for DIN rail mounting, input: 100-240V/50-60Hz, output: 24VDC/60W                                                                                                                                         |             | SP-9400  |
| <b>Patch panel</b> = PP-RJ-SCC patch panel, RJ45 jack on Push-in terminal blocks, 10/100/1000 Mbps, DIN rail adapter, IP20, shield contacting with strain relief                                                                                                                              |             | SP-9330  |
| <b>Industrial Ethernet Switch</b> = FL SWITCH 1005 Narrow Ethernet switch, five RJ45 ports with 10/100 Mbps on all ports, automatic data transmission speed detection, autocrossing function, and QoS                                                                                         |             | SP-9320  |
| <b>2pcs Limit value switch for analog relay function</b> = MINI MCR-2-UI-REL-PT Universally configurable limit value switch with PDT relay output and plug-in connection technology for switching analog limit values. Configurable via DIP switch or software. Push-in connection technology |             | SP-9700  |
| <b>Mounting</b>                                                                                                                                                                                                                                                                               |             |          |
| -SSE = Certified Stainless-Steel Enclosure 200x300x15 assembly incl. DIN rail<br>-DRM = DIN Rail mount                                                                                                                                                                                        | 10179 (WRG) |          |

**EXTERNAL DISPLAY**

| Model and description                                                                                                                                                                                                                                                                                                      | DRW No. | Part No. |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|
| <b>External Display</b>                                                                                                                                                                                                                                                                                                    |         |          |
| Display options                                                                                                                                                                                                                                                                                                            |         |          |
| <b>7" Capacitive touch panel mount</b>                                                                                                                                                                                                                                                                                     |         |          |
| WP 4070-WXPS = Touch panel with 17.8 cm/7" TFT-display (Projective-capacitive (PCAP)), 1280 x 800 pixel(s) (WXGA), 16.7 million colors, Arm® Cortex®-A53, 4x 1.2 GHz, 2x USB host 2.0, 1 x Ethernet (10/100 Mbps), RJ45, Yocto/Linux and user software: Chromium Browser. (bus system: without). IP65 front, IP20 backside |         | SP-9500  |
| <b>15" Capacitive panel, PC IP65 category enclosure</b>                                                                                                                                                                                                                                                                    |         |          |
| BL2 PPC AIO65 2000 = Full IP65 industrial PC with Intel® Pentium® N4200 processor and multi-touch capacitive full HD display. Designed for VESA, pole, or arm mounting. Network: 2x Ethernet (10/100/1000 Mbps), RJ45                                                                                                      |         | SP-9520  |
| <b>4.3" Resistive touch panel mount</b>                                                                                                                                                                                                                                                                                    |         |          |
| Touch panel with 10.92 cm / 4.3"-TFT-display (analog resistive (polyester)), 480 x 272 pixel(s) (WQVGA), 16.7 million colors, i.MX 6DualLite, 454 MHz, 1x USB Host 2.0, 1 x Ethernet (10/100 Mbps), RJ45, Yocto/Linux and user software: QT browser (bus system: without). IP66 front, IP20 (back)                         |         | SP-9560  |

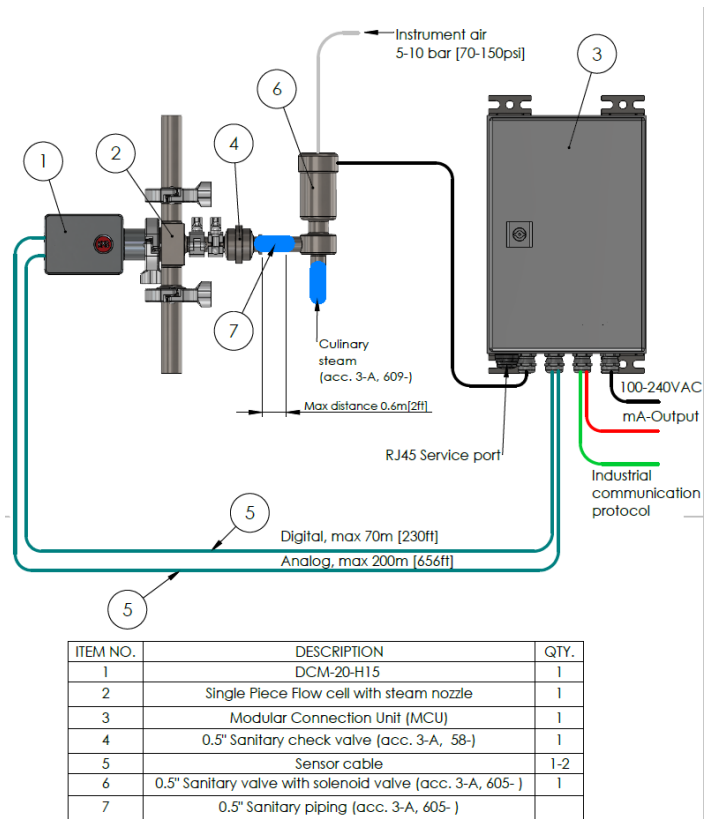
**OPTIONAL COMPONENTS**

| Model and description                                                                                                                                                                                                                                           | DRW No. | Part No.               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------------------------|
| <b>EHEDG certified seal</b>                                                                                                                                                                                                                                     |         |                        |
| Seal ring 1.5", EPDM<br>Seal ring 2.5" EPDM                                                                                                                                                                                                                     |         | SP-2032-E<br>SP-2034-E |
| <b>RJ-45 connector</b>                                                                                                                                                                                                                                          |         |                        |
| RJ45 connector, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: PA, connection method: IDC fast connection, connection cross section: AWG 26- 23, cable outlet: straight, color: traffic grey A RAL 7042, Ethernet |         | SP-9310                |
| <b>Industrial Ethernet Switch</b>                                                                                                                                                                                                                               |         |                        |
| FL SWITCH 1005 Narrow Ethernet switch, 5x RJ-45 ports with 10/100 Mbps on all ports, automatic data transmission speed detection, autocrossing function, and QoS.                                                                                               |         | SP-9320                |
| <b>Patch panel for free-end cable data wires</b>                                                                                                                                                                                                                |         |                        |
| Patch panel, 1x RJ-45 jack on Push-in terminal blocks, 10/100/1000 Mbps, DIN rail adapter, IP20, shield contacting with strain relief                                                                                                                           |         | SP-9330                |
| <b>User interface cable adapter</b>                                                                                                                                                                                                                             |         |                        |
| RJ-45 -to- USB-C 3.1 adapter for mobile device or tablet connection                                                                                                                                                                                             |         | SP-9340                |
| <b>Power supply</b>                                                                                                                                                                                                                                             |         |                        |
| UNO-PS/1AC/24DC/ 60W, Primary-switched UNO POWER power supply for DIN rail mounting, input: 100-240V/50-60Hz, output: 24VDC/60W.                                                                                                                                |         | SP-9400                |
| <b>Communication protocol converter module</b>                                                                                                                                                                                                                  |         |                        |
| DA50A Red Lion FlexEdge 1-Sled Protocol Gateway, 2x Ethernet ports for measurement logging functions with data integrity protection in Crimson user interface program. MicroSD memory card included.                                                            |         | SP-9850                |
| Protocol converter for Modbus TCP to Profinet<br>Protocol converter for Modbus TCP to Profibus                                                                                                                                                                  |         | SP-9860<br>SP-9870     |
| <b>Limit value switch for analog-relay function</b>                                                                                                                                                                                                             |         |                        |
| MINI MCR-2-UI-REL-PT Universally configurable limit value switch with PDT relay output and plug-in connection technology for switching analog limit values. Configurable via DIP switch or software. Push-in connection technology, standard configuration.     |         | SP-9700                |

**HIGH PRESSURE WATER WASH OF OPTICAL WINDOW**

| Model and description                                                                     | DRW No. | Part No. | List price |
|-------------------------------------------------------------------------------------------|---------|----------|------------|
| <b>High Pressure water pump system with magnetic water valve and water line hose (8m)</b> |         |          |            |
| SP-7006 = High Pressure pump (max water temperature 70°C)                                 |         | SP-7006  | 3200       |
| <b>Supply voltage</b>                                                                     |         |          |            |
| -400 = 400VAC (3-phase)                                                                   |         |          | net        |
| <b>Water valve voltage</b>                                                                |         |          |            |
| -24 = 24 VDC                                                                              |         |          | net        |
| <b>Option</b>                                                                             |         |          |            |
| -W = Without water line hose                                                              |         |          |            |

| Model and description                                  | DRW No. | Part No. | List price |
|--------------------------------------------------------|---------|----------|------------|
| <b>Power relay unit for high pressure water system</b> |         |          |            |
| SP-XXXX = Power relay unit                             |         | SP-XXXX  |            |
| <b>Supply voltage</b>                                  |         |          |            |
| -400 = 400 VAC (3-phase)                               |         |          |            |
| <b>Relay supply voltage</b>                            |         |          |            |
| -240 VAC                                               |         |          |            |
|                                                        |         |          |            |
|                                                        |         |          |            |

**STEAM WASH OF OPTIAL WINDOW**

| Model and description                        | DRW No. | Part No. |
|----------------------------------------------|---------|----------|
| <b>Steam wash system</b>                     |         |          |
| SP-7005 = Shut-off valve with solenoid valve |         | SP-7005  |
| <b>Supply voltage</b>                        |         |          |
| -24 = 24VDC                                  |         |          |
| <b>Steam</b>                                 |         |          |
|                                              |         |          |
|                                              |         |          |
|                                              |         |          |

| Model and description    | DRW No. | Part No. |
|--------------------------|---------|----------|
| <b>Steam wash system</b> |         |          |
| SP-7003 = Strainer       |         | SP-7005  |
| <b>Supply voltage</b>    |         |          |
| -24 = 24VDC              |         |          |
|                          |         |          |
|                          |         |          |
|                          |         |          |
|                          |         |          |