

SWE Exacta Series

Hydraulic diaphragm pumps with mechanical return mechanism



API 675 Hydraulic Diaphragm Metering Pumps

Metering pumps can be considered an irreplaceable instrument that allows the transfer, measure and control of liquids in a process.

Customers requirements to meet with a broad variety of applications, along with economical considerations, led us to the design of modular systems of pumps.

The **SWE Exacta Series** pumps of **SEKO** can be assembled to match nearly any dosing and budget requirement with our standard executions.

Should a special execution not to be included in our standard manufacturing program, the experience of more than 40 years gives us the know-how to design customized solutions.



Mechanism EXACTA® E Exacta Series

Standards



Drive

The standard execution includes the coupling to an electric motor at fixed or variable speed or flame proof execution. **Other options:** NEMA Standards motors, D.C. motors, mechanical speed variators, frequency converters (VCD).

The mechanisms of the **E Exacta Series** have been designed conforming to **API 675 Standards**. Three sizes of increasing power are available. Oil bath lubricated, very compact and rugged, designed for continuous and heavy-duty operations.

The stroke length is adjustable from zero to the maximum manually or, on request, by means of an electric servomotor or pneumatic positioner; the set adjustment can be read on a dial indicator.

Multiheaded units can be assembled by combining mechanism of the same or different sizes. Gearboxes are available with different reduction ratios for an accurate selection of the performances.

Steady state accuracy, repeatability and linearity:
in accordance with API 675 standards.

Flexibility:

Assembling of mechanisms of the same or different sizes.



Stroke length adjustment

It operates at pump running or at rest and includes a blocking device suitable to fix the selected flow rate.

Manual adjustment:

The clockwise allows the continuous stroke adjustment with the pump running or at rest. A blockage system fixes the rated flowrate.

Actuator:

Control signal: IN/OUT signal 4÷20 mA.

Profibus® signal available.

It includes include few non common characteristics such as: stroke limiters, overload protection, feed back signal, position indicator, flame proof execution; any component to be installed inside the control panel.

Pneumatic positioners:

Control signal: 0,2÷1 bar (3÷15 p.s.i.)

Profibus® signal available.

Option: I/P converter from 4÷20 mA to 0,2÷1 bar (3÷15 p.s.i.)

The “Exacta” Solution For Your Dosing Demands...

SW Pumphead

Hydraulic diaphragm pumpheads represent the ideal and sealed solution when transferring toxic or dangerous liquids that could pollute the environment or when the liquid pumped should be protected from external contaminations.

Operating principle

The diaphragm is hydraulically balanced between the process liquid and the hydraulic fluid and separates the hydraulic liquid from the ambient. The plunger reciprocating movement displaces the hydraulic fluid causing the movement of the diaphragm and an equal displacement of the process liquid. A device integrated in the hydraulic fluid protects the pumphead and ensures the reliability of the system: the pressure limiting valve (VSR) protects the pump from unexpected overpressures; the double diaphragm, **twin** type, is fitted with a control device “**EFD**” (Early Failure Detector) which gives the immediate signalling of the rupture of one diaphragm while the pump operation can continue until the maintenance can be scheduled.

- **Zero leakage:** hermetic (sealed) system
- **Double barrier:** the two layers “twin” diaphragm is fitted with a reliable control system (EFD) with local pressure gauge
- **Protected:** built-in overpressure valve
- **Totally sealed:** separation of the pumphead and the hydraulic circuit from the lubrication system of the mechanism
- **Multi purposes:** it is employed to dose clean liquids and as well as aggressive liquids or abrasive slurries

Options

- Customized connections
- Detection system (**EFD**) through pressure switch in flame proof execution too
- Cooling or heating jackets containing pumphead body only (**C**) or valves too (**CV**)
- Versions with different materials

Check valves

Check valves are an important component of the pumphead, the precision of a pump depends from their efficiency. There are different types of valves to be selected to meet the characteristics of the medium and the required performance; for high pressure or very low flow rates, double valves are used.

- **Ball check valves:** The most popular check valve is the ball valve, its popularity is given by its availability in many kinds of materials: steel, ceramic, glass, elastomers
- **Wing check valves:** Wing valves find their ideal application with clean liquids and where high accuracy and pressure are
- **Disc valves:** The disc valve, mostly used with high flow rate pumps, has a wide seat opening to allow the passage of the maximum amount of liquid with the minimum opening
- **Slurry valves:** Slurry valves are available for abrasive service, they have high clearances, hardened surfaces and soft seats that prevent the build up of solids. They are designed for slurries such as: slip (potter's clay), diatomite, lime, etc.



SWE1R Exacta Series



| Model | 50 Hz | | | | | | 60 Hz | | SWE1R | | | |
|-----------|---------------|----------------|------|---------------|----------------|------|---------------|--------|----------------|-----------------------|------------|-----|
| | Strokes /min. | Max. Flow Rate | | Strokes /min. | Max. Flow Rate | | Max. Pressure | | Electric motor | Suc/Dis Connec. Ø BSP | | |
| | | l/h | gph | | l/h | gph | bar | p.s.i. | | kW | STT | PTT |
| SWE1R 6 | 74 | 1,5 | 0,4 | 89 | 1,8 | 0,47 | 80 | 1160 | 0,55 | *1/4" M | 3/8" M | |
| | 93 | 1,9 | 0,5 | 112 | 2,3 | 0,6 | 80 | 1160 | 0,55 | *1/4" M | 3/8" M | |
| | 118 | 2,4 | 0,6 | - | - | - | 80 | 1160 | 0,75 | *1/4" M | 3/8" M | |
| SWE1R 8 | 74 | 2,9 | 0,8 | 89 | 3,5 | 0,9 | 80 | 1160 | 0,55 | *1/4" M | 3/8" M | |
| | 93 | 3,7 | 1,0 | 112 | 4,4 | 1,2 | 80 | 1160 | 0,55 | *1/4" M | 3/8" M | |
| | 118 | 4,6 | 1,6 | - | - | - | 80 | 1160 | 0,75 | *1/4" M | 3/8" M | |
| SWE1R 10 | 74 | 4,8 | 1,3 | 89 | 5,8 | 1,5 | 80 | 1160 | 0,55 | 1/4" M | 3/8" M | |
| | 93 | 6,1 | 1,6 | 112 | 7,3 | 1,9 | 80 | 1160 | 0,55 | 1/4" M | 3/8" M | |
| | 118 | 7,6 | 2,0 | - | - | - | 80 | 1160 | 0,75 | 1/4" M | 3/8" M | |
| SWE1R 12 | 74 | 7,1 | 1,9 | 89 | 8,5 | 2,3 | 80 | 1160 | 0,55 | 1/4" M | 3/8" M | |
| | 93 | 9,1 | 2,4 | 112 | 10,9 | 2,9 | 80 | 1160 | 0,55 | 1/4" M | 3/8" M | |
| | 118 | 11 | 2,9 | - | - | - | 80 | 1160 | 0,75 | 1/4" M | 3/8" M | |
| SWE1R 15 | 74 | 11,8 | 3,1 | 89 | 14,2 | 3,7 | 80 | 1160 | 0,55 | 1/4" F | 3/8" M | |
| | 93 | 15 | 4,0 | 112 | 18,0 | 4,8 | 80 | 1160 | 0,55 | 1/4" F | 3/8" M | |
| | 118 | 18,7 | 4,9 | - | - | - | 80 | 1160 | 0,75 | 1/4" F | 3/8" M | |
| SWE1R 26 | 74 | 37 | 9,8 | 89 | 44 | 11,7 | 80 | 1160 | 0,55 | 1/4" F | 3/8" M | |
| | 93 | 47 | 12,4 | 112 | 56 | 14,9 | 80 | 1160 | 0,55 | 1/4" F | 3/8" M | |
| | 118 | 59 | 15,6 | - | - | - | 80 | 1160 | 0,75 | 1/4" F | 3/8" M | |
| SWE1R 35 | 74 | 77 | 20,4 | 89 | 92 | 24,4 | 65 | 943 | 0,75 | 1/2" F | 3/8" M | |
| | 93 | 96 | 25,4 | 112 | 115 | 30,5 | 65 | 943 | 1,1 | 1/2" F | 3/8" M | |
| | 118 | 122 | 32,3 | - | - | - | 65 | 943 | 1,1 | 1/2" F | 3/8" M | |
| SWE1R 51 | 74 | 164 | 43,4 | 89 | 197 | 52,1 | 35 | 508 | 1,1 | 1/2" F | 1/2" F | |
| | 93 | 206 | 54,5 | 112 | 247 | 65,4 | 35 | 508 | 1,1 | 1/2" F | 1/2" F | |
| | 118 | 261 | 69 | - | - | - | 35 | 508 | 1,5 | 1/2" F | 1/2" F | |
| SWE1R 70 | 74 | 310 | 82 | 89 | 372 | 98 | 18 | 261 | 1,1 | 3/4" F | 1" F | |
| | 93 | 390 | 103 | 112 | 468 | 124 | 18 | 261 | 1,1 | 3/4" F | 1" F | |
| | 118 | 495 | 131 | - | - | - | 18 | 261 | 1,5 | 3/4" F | 1" F | |
| SWE1R 86 | 74 | 471 | 125 | 89 | 565 | 150 | 13 | 189 | 1,1 | 1" F | 1" F | |
| | 93 | 592 | 157 | 112 | 710 | 188 | 13 | 189 | 1,1 | 1" F | 1" F | |
| | 118 | 751 | 199 | - | - | - | 13 | 189 | 1,5 | 1" F | 1" F | |
| SWE1R 99 | 74 | 624 | 165 | 89 | 749 | 198 | 9 | 131 | 1,1 | 1" F | 1" F | |
| | 93 | 784 | 207 | 112 | 941 | 249 | 9 | 131 | 1,1 | 1" F | 1" F | |
| | 118 | 995 | 263 | - | - | - | 9 | 131 | 1,5 | 1" F | 1" F | |
| SWE1R 120 | 74 | 917 | 243 | 89 | 1100 | 291 | 6,5 | 94 | 1,1 | 1 1/4" F | **1 1/4" F | |
| | 93 | 1153 | 305 | 112 | 1384 | 366 | 6 | 87 | 1,1 | 1 1/4" F | **1 1/4" F | |
| | 118 | 1462 | 387 | - | - | - | 6 | 87 | 1,5 | 1 1/4" F | **1 1/4" F | |

* Ceramic Valves

** PTFE disc valve

Technical Features

| | |
|-----------------|---|
| Flow Rate | from 1,5 to 1462 l/h (0,47 to 366 gph) |
| Pressure | from 80 to 6 bar (1160 to 87 psi) |
| Stroke rate | 74 • 93 • 118 stokes/min. (50Hz) 89 • 112 stokes/min. (60Hz) |
| Piston diameter | from 6 to 120 mm |
| Motor Powers | 0,55(D) • 0,75(E) 1,1(F) • 1,5(G) kW |

The shown pressures refer to rated values.
Available motors (0,55 - 0,75 - 1,1 - 1,5 kW).
For further details please contact our offices.

Model number (Key to symbols)

| | |
|-------|---------------------------------------|
| SWE1R | Pump model |
| 120 | Piston diameter |
| S | Pump head S=316L or P=PP |
| T | Membrane T=PTFE |
| A | (A) Single Valves • (B) Double Valves |
| 24 | Reduction ratio (15 • 19 • 24) |
| 4 | Motor Poles (2 • 4) |
| G | Motor Power |

| Version | | Contact parts materials | | | | |
|---------|----------------------------------|-------------------------|------------|------------|--------|-------|
| Type | Bar max | Pumphead | Diaphragms | Valve Body | Valves | Seats |
| PTTA | 10 | PP | PTFE | PP | Pyrex | PTFE |
| PTTB | 10 | PP | PTFE | PP | Pyrex | PTFE |
| STTA | 40 | 316L | PTFE | 316L | 316L | 316L |
| STTB | 80 | 316L | PTFE | 316L | 316L | 316L |
| PESP | Plastic special versions | | | | | |
| SESP | Stainless steel special versions | | | | | |

SWE2 & SWE2DE Exacta Series



| Model | 50 Hz | | | | | | 60 Hz | | | SWE2 | |
|----------|---------------|----------------|-------|---------------|----------------|-------|---------------|--------|-------------------|-----------------------|------------|
| | Strokes /min. | Max. Flow Rate | | Strokes /min. | Max. Flow Rate | | Max. Pressure | | Electric motor kW | Suc/Dis Connec. Ø BSP | |
| | | l/h | gph | | l/h | gph | bar | p.s.i. | | STT | PTT |
| SWE2 15 | 70 | 17 | 4,5 | 84 | 20,4 | 5,4 | 80 | 1160 | 0,75 | 1/4" M | 3/8" M |
| | 93 | 23 | 6,1 | 112 | 27,6 | 7,3 | 80 | 1160 | 0,75 | 1/4" M | 3/8" M |
| | 122 | 30 | 7,9 | - | - | - | 80 | 1160 | 0,75 | 1/4" M | 3/8" M |
| SWE2 25 | 70 | 50 | 13,2 | 84 | 60 | 15,9 | 80 | 1160 | 1,5 | 1/2" F | 3/8" F |
| | 93 | 66 | 17,5 | 112 | 79 | 21 | 80 | 1160 | 1,5 | 1/2" F | 3/8" F |
| | 122 | 86 | 22,8 | - | - | - | 80 | 1160 | 1,5 | 1/2" F | 3/8" F |
| SWE2 35 | 70 | 107 | 28,3 | 84 | 128 | 34 | 80 | 1160 | 1,5 | 1/2" F | 3/8" F |
| | 93 | 144 | 38,1 | 112 | 173 | 45,7 | 80 | 1160 | 2,2 | 1/2" F | 3/8" F |
| | 122 | 190 | 50,3 | - | - | - | 80 | 1160 | 2,2 | 1/2" F | 3/8" F |
| SWE2 50 | 70 | 223 | 59 | 84 | 268 | 70,8 | 40 | 580 | 1,5 | 3/4" F | 1/2" F |
| | 93 | 297 | 78,6 | 112 | 356 | 94,3 | 40 | 580 | 2,2 | 3/4" F | 1/2" F |
| | 122 | 390 | 130,2 | - | - | - | 40 | 580 | 2,2 | 3/4" F | 1/2" F |
| SWE2 70 | 70 | 441 | 116,7 | 84 | 529 | 140 | 22 | 319 | 1,5 | 1" F | 1" F |
| | 93 | 586 | 155 | 112 | 703 | 186 | 17 | 247 | 1,5 | 1" F | 1" F |
| | 122 | 770 | 203,7 | - | - | - | 20 | 290 | 2,2 | 1" F | 1" F |
| SWE2 86 | 70 | 651 | 172,2 | 84 | 781 | 206,7 | 15 | 218 | 1,5 | 1" F | 1" F |
| | 93 | 865 | 22,8 | 112 | 1038 | 247,6 | 15 | 218 | 2,2 | 1" F | 1" F |
| | 122 | 1134 | 300 | - | - | - | 13 | 189 | 2,2 | 1" F | 1" F |
| SWE2 100 | 70 | 904 | 239,2 | 84 | 1085 | 287 | 11 | 160 | 1,5 | 1" F | *1 1/4" F |
| | 93 | 1202 | 318 | 112 | 1442 | 381,6 | 11 | 160 | 2,2 | 1" F | *1 1/4" F |
| SWE2 120 | 70 | 1305 | 345,2 | 84 | 1556 | 414,3 | 7 | 102 | 1,5 | 1 1/4" F | *1 1/4" F |
| | 93 | 1732 | 458,2 | 112 | 2048 | 549,8 | 7 | 102 | 2,2 | 1 1/4" F | *1 1/4" F |
| SWE2 140 | 70 | 1783 | 471,7 | 84 | 2140 | 566 | 5 | 73 | 1,5 | 1 1/2" F | **1 1/2" F |
| | 93 | 2371 | 627,2 | 112 | 2845 | 752,7 | 5 | 73 | 2,2 | 1 1/2" F | **1 1/2" F |

| SWE2 DE | | | | | | | | | | | |
|------------|-----|------|------|-----|-------|------|-----|-----|-----|----------|------------|
| SWE2DE 50 | 70 | 390 | 103 | 84 | 468 | 124 | 29 | 421 | 1,1 | 3/4" F | 1/2" F |
| | 93 | 520 | 138 | 112 | 624 | 165 | 29 | 421 | 1,1 | 3/4" F | 1/2" F |
| | 122 | 682 | 180 | - | - | - | 29 | 421 | 1,5 | 3/4" F | 1/2" F |
| SWE2DE 70 | 70 | 826 | 219 | 84 | 991 | 262 | 14 | 203 | 1,1 | 1" F | 1" F |
| | 93 | 1098 | 290 | 112 | 1318 | 349 | 14 | 203 | 1,1 | 1" F | 1" F |
| | 122 | 1440 | 381 | - | - | - | 14 | 203 | 1,5 | 1" F | 1" F |
| SWE2DE 100 | 70 | 1674 | 443 | 84 | 2009 | 531 | 7 | 102 | 1,1 | 1" F | *1 1/4" F |
| | 93 | 2224 | 588 | 112 | 2669 | 706 | 7 | 102 | 1,1 | 1" F | *1 1/4" F |
| | 122 | 2918 | 772 | - | - | - | 7 | 102 | 1,5 | 1" F | *1 1/4" F |
| SWE2DE 140 | 70 | 3422 | 905 | 84 | 4106 | 1086 | 3,5 | 51 | 1,1 | 1 1/2" F | **1 1/2" F |
| | 93 | 4547 | 1203 | 112 | 5456 | 1443 | 3,5 | 51 | 1,1 | 1 1/2" F | **1 1/2" F |
| | 122 | 5964 | 1578 | - | - | - | 3,6 | 52 | 1,5 | 1 1/2" F | **1 1/2" F |
| SWE2DE 200 | 70 | 7137 | 1888 | 84 | 8564 | 2266 | 1,8 | 26 | 1,1 | 2" F | **2" F |
| | 93 | 9484 | 2509 | 112 | 11381 | 3011 | 1,8 | 26 | 1,5 | 2" F | **2" F |

* PTFE disc valve

** PP ball valve

The shown pressures refer to rated values.
Available motors (0,75 - 1,1 - 1,5 - 2,2 kW).
 For further details please contact our offices.

Technical Features

| | |
|-----------------|---|
| Flow Rate | from 20 to 9484 l/h (6,3 to 3011 gph) |
| Pressure | from 80 to 6 bar (1160 to 87 psi) |
| Stroke rate | 70 • 93 • 122 stokes/min. (50Hz) 84 • 112 stokes/min. (60Hz) |
| Piston diameter | from 15 to 200 mm |
| Motor Powers | 0,75(E) • 1,1(F) 1,5(G) • 2,2(H) kW |

Model number (Key to symbols)

| | |
|-------|---------------------------------------|
| SWE1R | Pump model |
| 200 | Piston diameter |
| S | Pump head S=316L or P=PP |
| T | Membrane T=PTFE |
| A | (A) Single Valves • (B) Double Valves |
| 24 | Reduction ratio (15 • 20 • 23) |
| 4 | Motor Poles (2 • 4) |
| H | Motor Power |

| Version | | Contact parts materials | | | | |
|---------|----------------------------------|-------------------------|------------|------------|--------|-------|
| Type | Bar max | Pumphead | Diaphragms | Valve Body | Valves | Seats |
| PTTA | 10 | PP | PTFE | PP | Pyrex | PTFE |
| PTTB | 10 | PP | PTFE | PP | Pyrex | PTFE |
| STTA | 40 | 316L | PTFE | 316L | 316L | 316L |
| STTB | 80 | 316L | PTFE | 316L | 316L | 316L |
| PESP | Plastic special versions | | | | | |
| SESP | Stainless steel special versions | | | | | |

SWE3 & SWE3DE Exacta Series



| Model | 50 Hz | | | | | | 60 Hz | | SWE3 | | | |
|----------|---------------|----------------|------|---------------|----------------|------|---------------|--------|----------------|-----------------------|------------|-----|
| | Strokes /min. | Max. Flow Rate | | Strokes /min. | Max. Flow Rate | | Max. Pressure | | Electric motor | Suc/Dis Connec. Ø BSP | | |
| | | l/h | gph | | l/h | gph | bar | p.s.i. | | kW | STT | PTT |
| SWE3 25 | 70 | 89 | 23,5 | 84 | 107 | 28,3 | 80 | 1160 | 2,2 | 1/4" F | 3/8" F | |
| | 93 | 118 | 31,2 | 112 | 142 | 37,5 | 80 | 1160 | 2,2 | 1/4" F | 3/8" F | |
| | 122 | 156 | 41,3 | - | - | - | 80 | 1160 | 3 | 1/4" F | 3/8" F | |
| SWE3 35 | 70 | 178 | 47,1 | 84 | 214 | 56,5 | 80 | 1160 | 2,2 | 1/2" F | 1/2" F | |
| | 93 | 236 | 62,4 | 112 | 283 | 75 | 80 | 1160 | 3 | 1/2" F | 1/2" F | |
| | 122 | 310 | 82 | - | - | - | 80 | 1160 | 4 | 1/2" F | 1/2" F | |
| SWE3 50 | 70 | 371 | 98 | 84 | 445 | 118 | 80 | 1160 | 4 | 1" F | 1" F | |
| | 93 | 493 | 130 | 112 | 592 | 185 | 80 | 1160 | 5,5 | 1" F | 1" F | |
| | 122 | 648 | 171 | - | - | - | 80 | 1160 | 7,5 | 1" F | 1" F | |
| SWE3 70 | 70 | 735 | 194 | 84 | 882 | 233 | 51 | 740 | 5,5 | 1" F | 1" F | |
| | 93 | 977 | 258 | 112 | 1172 | 310 | 52 | 754 | 7,5 | 1" F | 1" F | |
| | 122 | 1281 | 339 | - | - | - | 40 | 580 | 9,2 | 1" F | 1" F | |
| SWE3 86 | 70 | 1090 | 288 | 84 | 1308 | 346 | 37 | 537 | 7,5 | 1 1/4" F | *1 1/4" F | |
| | 93 | 1448 | 383 | 112 | 1738 | 460 | 35 | 508 | 7,5 | 1 1/4" F | *1 1/4" F | |
| | 122 | 1900 | 503 | - | - | - | 33 | 479 | 9,2 | 1 1/4" F | *1 1/4" F | |
| SWE3 100 | 70 | 1551 | 400 | 84 | 1831 | 480 | 26 | 377 | 7,5 | 1 1/4" F | *1 1/4" F | |
| | 93 | 2007 | 531 | 112 | 2408 | 637 | 25 | 363 | 7,5 | 1 1/4" F | *1 1/4" F | |
| SWE3 120 | 70 | 2177 | 576 | 84 | 2612 | 691 | 18 | 261 | 7,5 | 1 1/2" F | **1 1/2" F | |
| | 93 | 2893 | 765 | 112 | 3472 | 918 | 18 | 261 | 7,5 | 1 1/2" F | **1 1/2" F | |
| SWE3 140 | 70 | 2967 | 785 | 84 | 3560 | 942 | 13 | 189 | 5,5 | 1 1/2" F | **1 1/2" F | |
| | 93 | 3942 | 1043 | 112 | 4730 | 1251 | 13 | 189 | 7,5 | 1 1/2" F | **1 1/2" F | |

| SWE3 DE | | | | | | | | | | | |
|------------|-----|-------|------|-----|-------|------|-----|-----|-----|----------|------------|
| SWE3DE 50 | 70 | 657 | 174 | 84 | 788 | 209 | 40 | 580 | 2,2 | 1" F | 1" F |
| | 93 | 873 | 231 | 112 | 1048 | 277 | 40 | 580 | 3 | 1" F | 1" F |
| | 122 | 1146 | 303 | - | - | - | 40 | 580 | 4 | 1" F | 1" F |
| SWE3DE 70 | 70 | 1387 | 367 | 84 | 1664 | 440 | 40 | 580 | 4 | 1" F | 1" F |
| | 93 | 1836 | 486 | 112 | 2203 | 583 | 40 | 580 | 5,5 | 1" F | 1" F |
| | 122 | 2419 | 640 | - | - | - | 40 | 580 | 7,5 | 1" F | 1" F |
| SWE3DE 100 | 70 | 2806 | 742 | 84 | 3367 | 891 | 24 | 348 | 5,5 | 1 1/4" F | *1 1/4" F |
| | 93 | 3728 | 986 | 112 | 4474 | 1183 | 21 | 305 | 5,5 | 1 1/4" F | *1 1/4" F |
| | 122 | 4891 | 1294 | - | - | - | 21 | 305 | 7,5 | 1 1/4" F | *1 1/4" F |
| SWE3DE 140 | 70 | 5741 | 1519 | 84 | 6889 | 1823 | 11 | 160 | 5,5 | 1 1/2" F | **1 1/2" F |
| | 93 | 7628 | 2018 | 112 | 9541 | 2422 | 11 | 160 | 7,5 | 1 1/2" F | **1 1/2" F |
| SWE3DE 200 | 70 | 11917 | 3167 | 84 | 14365 | 3800 | 5,4 | 78 | 5,5 | 2 1/2" F | **2 1/2" F |
| | 93 | 15906 | 4208 | 112 | 19087 | 5050 | 5,4 | 78 | 7,5 | 2 1/2" F | **2 1/2" F |

* PTFE disc valve ** PP ball valves

Technical Features

| | |
|-----------------|---|
| Flow Rate | from 89 to 15906 l/h (23,5 to 5050 gph) |
| Pressure | from 80 to 6 bar (1160 to 87 psi) |
| Stroke rate | 70 • 93 • 120 stokes/min. (50Hz) 84 • 112 stokes/min. (60Hz) |
| Piston diameter | from 25 to 200 mm |
| Motor Powers | 2,2(H) • 3(I) • 4(J) 5,5(K) • 7,5(L) • 9,2(N) kW |

*The shown pressures refer to rated values.
Available motors (2,2 - 3 - 4 - 5 - 7,5 - 9,2 kW).
For further details please contact our offices.*

Model number (Key to symbols)

| | |
|------|---------------------------------------|
| SWE3 | Pump model |
| 200 | Piston diameter |
| S | Pump head S=316L or P=PP |
| T | Membrane T=PTFE |
| A | (A) Single Valves • (B) Double Valves |
| 24 | Reduction ratio (15 • 20 • 23) |
| 4 | Motor Poles (2 • 4) |
| N | Motor Power |

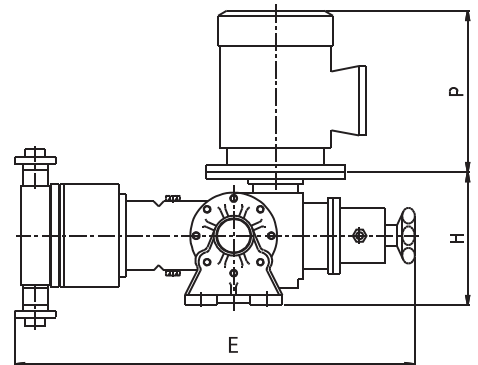
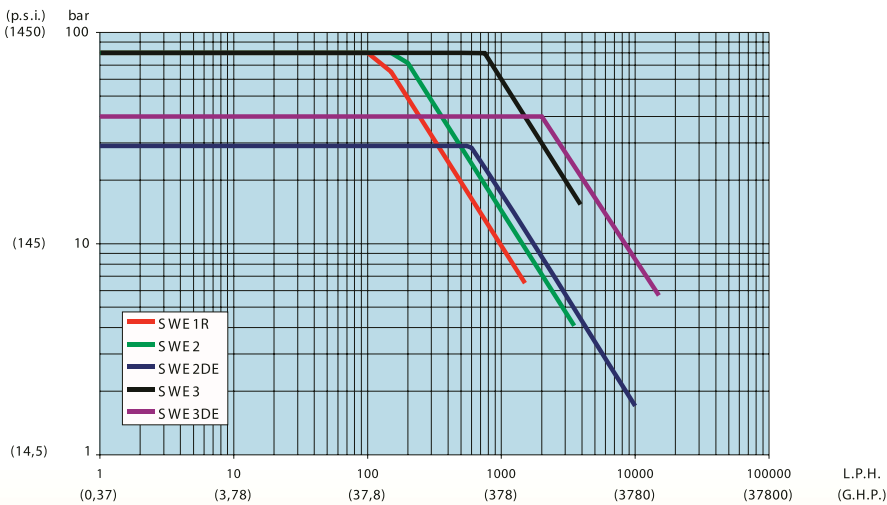
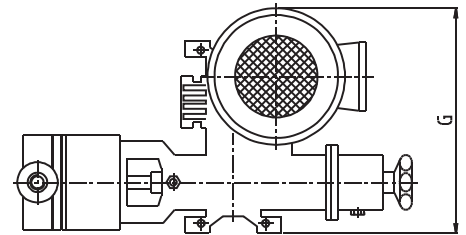
| Version | | Contact parts materials | | | | |
|---------|----------------------------------|-------------------------|------------|------------|--------|-------|
| Type | Bar max | Pumphead | Diaphragms | Valve Body | Valves | Seats |
| PTTA | 10 | PP | PTFE | PP | Pyrex | PVC |
| PTTB | 10 | PP | PTFE | PP | Pyrex | PVC |
| STTA | 40 | 316L | PTFE | 316L | 316L | 316L |
| STTB | 80 | 316L | PTFE | 316L | 316L | 316L |
| PESP | Plastic special versions | | | | | |
| SESP | Stainless steel special versions | | | | | |

Dimensional drawings and selection table

| Model | Flow Rate (l/h) | | Pressure (bar) | | Dimensions (mm)* | | | Kg* |
|--------|-----------------|-------|----------------|-----|------------------|-----|-----|---------|
| | min | max | min | max | E** | H | G | |
| SWE1R | 1,5 | 1462 | 6 | 80 | 538÷638 | 330 | 192 | 13÷60 |
| SWE2 | 20 | 2371 | 5 | 80 | 650÷715 | 350 | 232 | 24÷40 |
| SWE2DE | 390 | 9484 | 1,8 | 27 | 750÷850 | 350 | 232 | 69÷130 |
| SWE3 | 89 | 3942 | 13 | 80 | 910÷943 | 500 | 357 | 100÷154 |
| SWE3DE | 657 | 15906 | 5,4 | 40 | 950÷1090 | 500 | 357 | 116÷165 |

* Without Electric motor, depending on pumphead size

** Depending on pump head size



Accessories for the correct installation

The trouble-free operation of a pump depends mainly by an installation studied for the required duty; the choice of the suitable accessories and their sizing are very important to fit the pump in a functional system.



Filters

Liquids may contain impurities that can cause the malfunctioning of the valves and consequently flow fluctuation and even the clogging of the pipes. To prevent these dangerous situations it is advisable

to install a filter on the suction line; the filter should be correctly sized to limit pressure losses in critical suction installations.

Safety valves

Safety valves are installed to prevent dangerous situations in case of unexpected overpressure that can damage the pump and the pipes. Metering pumps that can reach high pressures in one stroke, therefore they should be protected by possible clogging of the pipes provoked by sedimentation or accidental closure of a valve. Hydraulic diaphragm pumps are protected with a limiting pressure valve built-in in the hydraulic circuit; the piping should be



protected by an in-line pressure safety valve.

Back pressure valves

To allow the correct operation of a pump and to prevent the flow-through (siphoning) of the process liquid, the discharge pressure should be greater than the suction pressure; when this condition is

not respected then a backpressure valve can be the solution.



Pulsation dampers

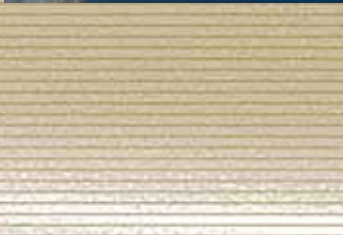
The reciprocating movement of the piston generates pulsations: during each stroke the liquid contained in the suction and discharge lines is accelerated from zero to the maximum speed and then decelerated to zero again. Pulsation dampers are the accessories suggested to reduce high and not permissible pressure fluctuations or to obtain a linearity of the flow. A similar result can be obtained by using a multiheaded dosing group which is more expensive.



Calibration pots

The calibration pot installed on the suction line gives the possibility to check the actual flow rate of a metering pump in the real operating conditions. The capacity of the calibration pot should be as to permit





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