

## ASEPTIC CENTRIFUGAL SANITARY PUMPS CSD SERIES

*Closed coupled hygienic and aseptic centrifugal pumps with open impellers. For optimal product security, the CSD aseptic series incorporates a steam protection barrier between the pumped product and the external environment. It is composed of two different flushing systems: one with very high temperature water for the mechanical seal and the second is steam on the product pump connections.*

*Wetted parts in CF-3M 1.4404 / AISI 316L stainless steel, investment cast and electro-chemically polished. Special internal finishes to 0,5 micron Ra are available on request.*

*The clamp casing and seal design allows quick disassembly for inspection, cleaning and maintenance.*

*Separate IEC standard motor.*

*For aggressive products and environments, CSD pumps can on special request, be manufactured in the following materials:*

- Superduplex
- Nickel steel

*Note: upon availability with CSF*



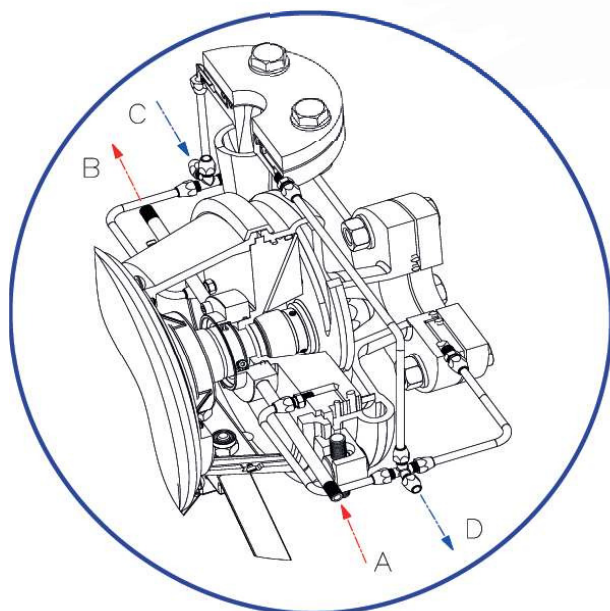
HYGIENE



BIOTECHNOLOGY



INDUSTRIAL



### Flushing pipes connections: 1/8" GAS

Mechanical seal flushing inlet

Mechanical seal flushing outlet

Flushing inlet of the casing / cover barrier and inlet - outlet port flanges

Flushing outlet of the casing / cover barrier and inlet - outlet port flanges

### Steam protective barrier

The steam piping must be connected to the "C" inlet fitting. The steam creates a sterile protection barrier for the pumped product by circulating inside the circuit positioned between the casing / cover and the inlet and outlet flanges.

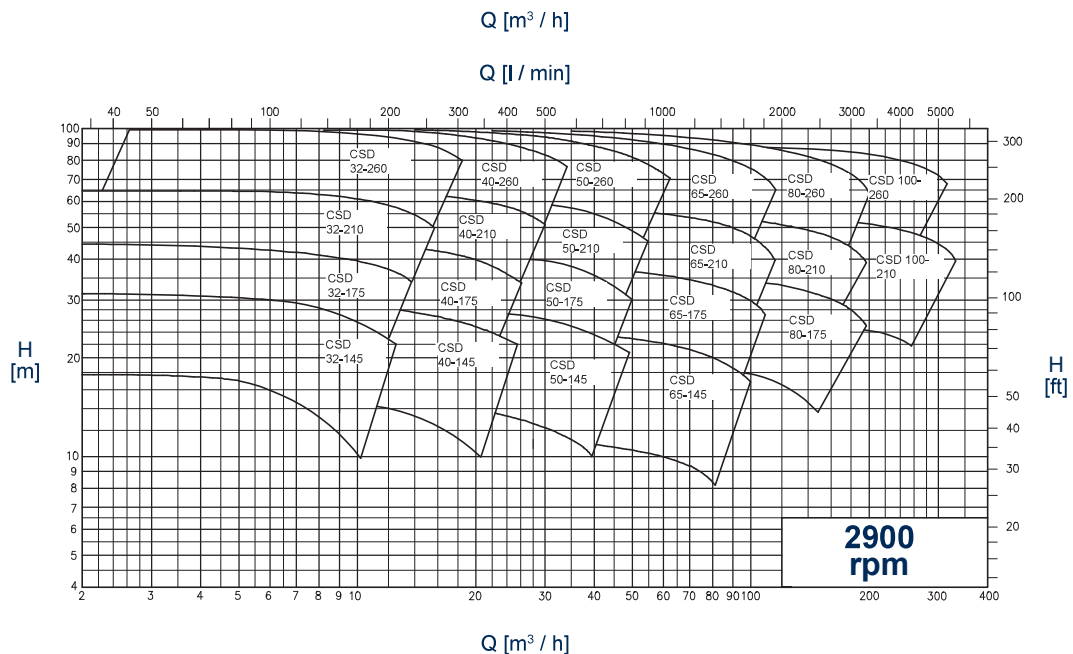
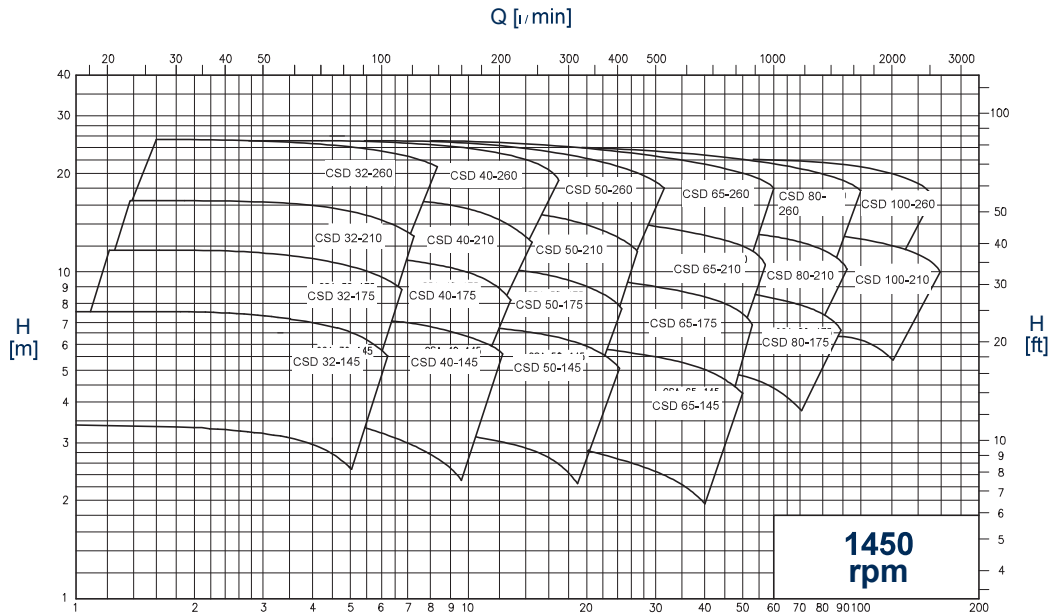
The steam collecting piping will be connected to the "D" steam outlet fitting.

The piping conveying the overheated water for cooling of radial seal must be connected at the inlet to the "A" pipe and at the outlet to the "B" pipe

**Note: For the good running of the pump it is important that the flushing liquid circulate inside the mechanical seal box before the pump start-up and it must be suspended after the pump stop only. Make closed-loop connection of the D steam outlet fitting to avoid contact with the atmosphere.**

## GENERAL DIAGRAMS

(Performance applies to H<sub>2</sub>O at 20 °C, 1013 mbar, Data not binding)



## TECHNICAL DATA

Flow rates up to 300 m³/h  
 Heads up to 90 mH<sub>2</sub>O  
 Maximum operating pressure 10 bar up to 100°C  
 Temperature range -20° ÷ +100°  
 High performance, with low NPSH values.

### Connections:

UNI EN1092-1 PN16 flanges.

### Mechanical seals:

Protected, balanced and bi-directional mechanical seals with seats to EN12756, ISO3069 standards.  
 Single internal mechanical seal with external protective barrier "V".

The "V execution" seal system is composed of an internal, protected, balanced and bi-directional mechanical seal with seats according to EN 12756 - ISO 3069 standards in direct contact with the product and of an external radial seal for the high temperature flushing liquid.

Use sterile condensate with flow rate 0.5 ÷ 1 l/min and pressure ≤ 1 Bar.

### Technical Data for Sterilisation:

Maximum steam pressure: 3 Bar

Maximum steam temperature : 130°C

### Elastomers (FDA Regulation (EC) No. 1935/2004):

Nitrile (NBR)

Ethylene propylene (EPDM)

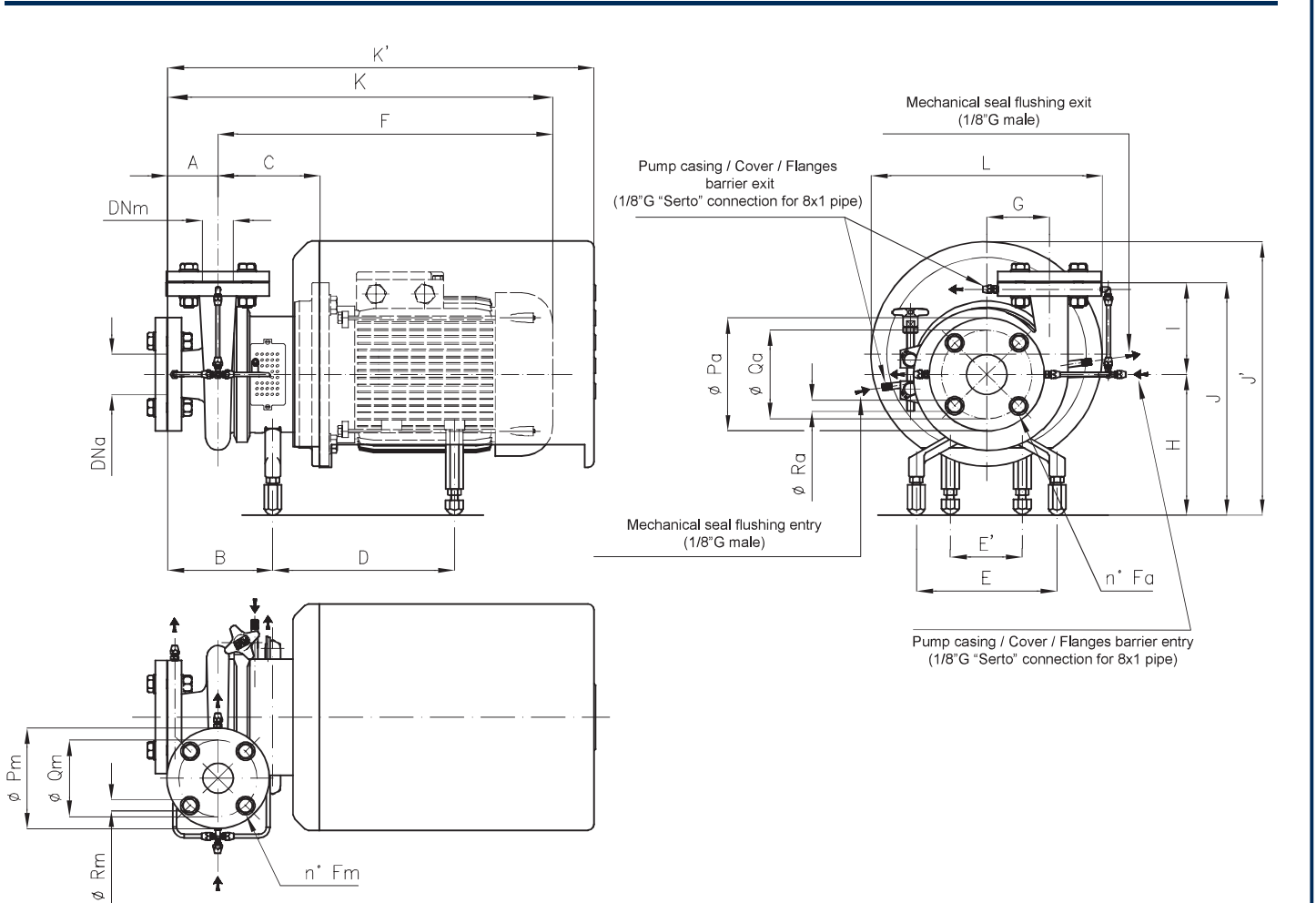
Special fluorocarbon seal

Fluorocarbon seal (FPM - FKM)

FEP

FFPM - FFKM

Silicone



Dimensions not binding - DN = UNI EN 1092-1 PN 16 flanges, with standard IEC/EN motors

| Pump type  | IEC motor dimensions: | DNa | DNm | A  | B   | C   | D   | E   | E' | F   | G   | H   | K   | K'  | I   | J   | J'  | L   | Ø Pa | Ø Qa | Ø Ra | Ø fa | Ø Rm | Ø Qm | Ø Rm | Ø fm |     |
|------------|-----------------------|-----|-----|----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|-----|
| CSD 32-145 | 80                    | 40  | 32  | 80 | 167 | 138 | 231 | 225 | -  | 372 | 85  | 208 | 452 | 566 | 135 | 343 | 372 | 298 | 150  | 110  | 18   | 4    | 140  | 100  | 18   | 4    |     |
|            | 90                    |     |     |    |     | 419 | 499 |     |    | 360 |     | 430 | 330 |     |     |     |     |     |      |      |      |      |      |      |      |      |     |
|            | 100                   |     |     |    |     | 475 | 555 |     |    | 360 |     | 430 | 330 |     |     |     |     |     |      |      |      |      |      |      |      |      |     |
|            | 112                   |     |     |    |     | 468 | 548 |     |    | 635 |     | 360 | 430 | 330 |     |     |     |     |      |      |      |      |      |      |      |      |     |
| CSD 32-175 | 80                    | 40  | 32  | 80 | 167 | 139 | 231 | 225 | -  | 373 | 95  | 213 | 453 | 567 | 135 | 348 | 377 | 298 | 150  | 110  | 18   | 4    | 140  | 100  | 18   | 4    |     |
|            | 90                    |     |     |    |     | 420 | 500 |     |    | 365 |     | 435 | 330 |     |     |     |     |     |      |      |      |      |      |      |      |      |     |
|            | 100                   |     |     |    |     | 476 | 556 |     |    | 365 |     | 435 | 330 |     |     |     |     |     |      |      |      |      |      |      |      |      |     |
|            | 112                   |     |     |    |     | 469 | 549 |     |    | 636 |     | 365 | 435 | 330 |     |     |     |     |      |      |      |      |      |      |      |      |     |
| CSD 32-210 | 80                    | 40  | 32  | 88 | 166 | 139 | 231 | 225 | -  | 373 | 110 | 221 | 461 | 575 | 155 | 376 | 385 | 298 | 150  | 110  | 18   | 4    | 140  | 100  | 18   | 4    |     |
|            | 90                    |     |     |    |     | 420 | 508 |     |    | 376 |     | 385 | 298 |     |     |     |     |     |      |      |      |      |      |      |      |      |     |
|            | 100                   |     |     |    |     | 476 | 564 |     |    | 644 |     | 376 | 385 | 298 |     |     |     |     |      |      |      |      |      |      |      |      |     |
|            | 112                   |     |     |    |     | 469 | 546 |     |    | 688 |     | 393 | 460 | 370 |     |     |     |     |      |      |      |      |      |      |      |      |     |
|            | 132 M-S               |     |     |    |     | 161 | 283 |     |    | 180 |     | 546 | 238 | 634 |     | 688 | 393 | 460 |      |      |      |      |      |      |      |      | 370 |
|            | 132 MB                |     |     |    |     | 161 | 281 |     |    | 185 |     | 584 | 238 | 672 |     | 743 | 393 | 460 |      |      |      |      |      |      |      |      | 370 |
|            | 160                   |     |     |    |     | 206 | 408 |     |    | 230 |     | 700 | 238 | 788 |     | 943 | 393 | 460 |      |      |      |      |      |      |      |      | 370 |
| CSD 32-260 | 90                    | 50  | 32  | 90 | 184 | 163 | 231 | 225 | -  | 444 | 140 | 221 | 534 | 601 | 177 | 398 | 385 | 298 | 165  | 125  | 18   | 4    | 140  | 100  | 18   | 4    |     |
|            | 100                   |     |     |    |     | 500 | 590 |     |    | 443 |     | 330 |     |     |     |     |     |     |      |      |      |      |      |      |      |      |     |
|            | 112                   |     |     |    |     | 493 | 583 |     |    | 649 |     | 443 | 330 |     |     |     |     |     |      |      |      |      |      |      |      |      |     |
|            | 132 M-S               |     |     |    |     | 185 | 292 |     |    | 180 |     | 570 | 238 | 660 |     | 714 | 415 | 460 |      |      |      |      |      |      |      |      | 370 |
|            | 132 MB                |     |     |    |     | 185 | 290 |     |    | 185 |     | 608 | 238 | 698 |     | 769 | 415 | 460 |      |      |      |      |      |      |      |      | 370 |
|            | 160                   |     |     |    |     | 225 | 412 |     |    | 230 |     | 719 | 247 | 809 |     | 968 | 424 | 510 |      |      |      |      |      |      |      |      | 430 |
| CSD 40-145 | 80                    | 50  | 40  | 80 | 168 | 139 | 231 | 225 | -  | 373 | 90  | 208 | 453 | 567 | 133 | 341 | 372 | 298 | 165  | 125  | 18   | 4    | 150  | 110  | 18   | 4    |     |
|            | 90                    |     |     |    |     | 420 | 501 |     |    | 341 |     | 372 | 298 |     |     |     |     |     |      |      |      |      |      |      |      |      |     |
|            | 100                   |     |     |    |     | 476 | 556 |     |    | 358 |     | 430 | 330 |     |     |     |     |     |      |      |      |      |      |      |      |      |     |
|            | 112                   |     |     |    |     | 469 | 549 |     |    | 636 |     | 358 | 430 | 330 |     |     |     |     |      |      |      |      |      |      |      |      |     |
| CSD 40-175 | 80                    | 50  | 40  | 80 | 169 | 141 | 231 | 225 | -  | 375 | 95  | 213 | 455 | 569 | 140 | 353 | 377 | 298 | 165  | 125  | 18   | 4    | 150  | 110  | 18   | 4    |     |
|            | 90                    |     |     |    |     | 422 | 502 |     |    | 353 |     | 377 | 298 |     |     |     |     |     |      |      |      |      |      |      |      |      |     |
|            | 100                   |     |     |    |     | 478 | 558 |     |    | 353 |     | 377 | 298 |     |     |     |     |     |      |      |      |      |      |      |      |      |     |
|            | 112                   |     |     |    |     | 471 | 551 |     |    | 638 |     | 370 | 435 | 330 |     |     |     |     |      |      |      |      |      |      |      |      |     |
|            | 132 M-S               |     |     |    |     | 164 | 275 |     |    | 180 |     | 549 | 230 | 629 |     | 683 | 370 | 435 |      |      |      |      |      |      |      |      | 330 |
|            | 132 MB                |     |     |    |     | 164 | 273 |     |    | 185 |     | 587 | 230 | 667 |     | 738 | 370 | 435 |      |      |      |      |      |      |      |      | 330 |
|            | 160                   |     |     |    |     | 208 | 400 |     |    | 230 |     | 702 | 238 | 782 |     | 937 | 378 | 493 |      |      |      |      |      |      |      |      | 430 |
| CSD 40-210 | 80                    | 50  | 40  | 80 | 161 | 141 | 231 | 225 | -  | 375 | 115 | 221 | 455 | 569 | 165 | 386 | 385 | 298 | 165  | 125  | 18   | 4    | 150  | 110  | 18   | 4    |     |
|            | 90                    |     |     |    |     | 422 | 502 |     |    | 386 |     | 385 | 298 |     |     |     |     |     |      |      |      |      |      |      |      |      |     |
|            | 100                   |     |     |    |     | 478 | 558 |     |    | 386 |     | 385 | 298 |     |     |     |     |     |      |      |      |      |      |      |      |      |     |
|            | 112                   |     |     |    |     | 471 | 551 |     |    | 638 |     | 403 | 443 | 330 |     |     |     |     |      |      |      |      |      |      |      |      |     |
|            | 132 M-S               |     |     |    |     | 164 | 283 |     |    | 180 |     | 549 | 238 | 629 |     | 683 | 403 | 443 |      |      |      |      |      |      |      |      | 330 |
|            | 132 MB                |     |     |    |     | 164 | 281 |     |    | 185 |     | 587 | 238 | 667 |     | 738 | 403 | 443 |      |      |      |      |      |      |      |      | 330 |

