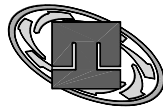
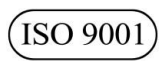




**ADDITIONAL INSTRUCTIONS**  
**TCD /2-R/A3-SP**  
complete Series



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NA4.IS.CDSP.GB00/ZO.US - (Rev. 2.0)

These instructions are accompanied by the "OPERATION MANUAL FOR CENTRIFUGAL PUMPS", which constitutes a reference for the safety of use and for any work done on the installation, maintenance and repair of the pumps.

### Active Cooling Construction

The TCD /2-R/A3-SP standard pumps (figure 1) are designed to handle thermal fluids up to 320 °C without special cooling systems. The heat from the pumped product is greatly blocked by a special "heat barrier" chamber located between the pump casing and the impeller. The bearing frame has been especially designed with cooling fins to effectively dissipate the heat coming from the pump casing so that a standard single mechanical seal and support frame with oil lubrication can be safely used.

The construction design with Active Cooling (figure 2) allows the pumps series TCD /2-R/A3-SP/XT to operate at higher temperatures (365°C) compared to the standard /A3-SP. The heat coming from the pumped medium can be lowered even further by combining the use of an axial vortex fan which, by routing the air in a direct way on the external surface of the bearing housing, further eases the thermal exchange with the environment.

figure 1 - TCD /2-R/A3-SP  
Standard – Drive End view

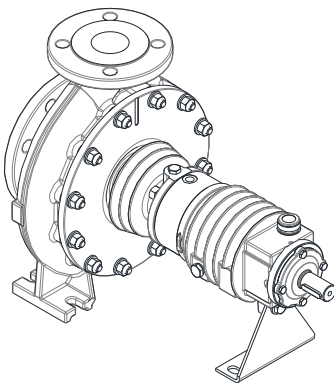
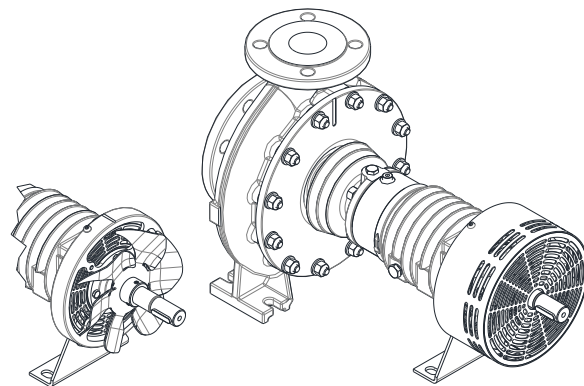


figure 2 - TCD /2-R/A3-SP/XT  
Active Cooling



The TCD /2-R/A3-SP pump series, in all types of constructions, have an auxiliary seal chamber (figure 3) containing barrier oil which is compatible with the pumped oil. In case of a mechanical seal breakdown, this device avoids air getting into the pump (it would be blocked by the barrier oil), and avoids that the lubricating oil of the bearing get into the pumping circuit or vice versa.

The TCD /2-R/A3-SP/XT pumps with Active Cooling are always supplied, for safety, with barrier oil in the auxiliary seal chamber to prevent any dry running of the radial seal lips (lip seal). The oil barrier OLEODIN 100 is the same oil used for bearings lubrication.

TCD /2-R/A3-SP group 1 – Oil quantity 4.5 ml.

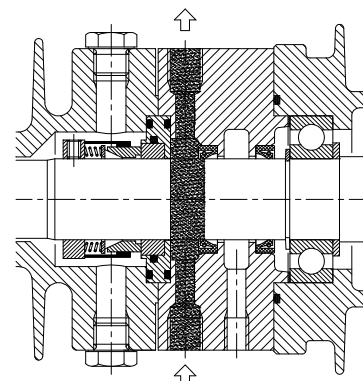
TCD /2-R/A3-SP group 2 – Oil quantity 8.5 ml.



**The customer is required to assess the compatibility of the oil supplied with the pumped product and replace it if necessary.**

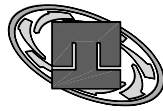
The plugs on the auxiliary seal chamber (figure 4) allow filling and draining of the oil.

figure 3 - TCD /2-R/A3-SP  
Detail of Auxiliary Seal Chamber





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The correct functionality of the barrier oil always requires a connection between the Auxiliary Seal Chamber and an Oil Reservoir Tank (figure 5). This allows for a better cooling of the mechanical seal and compensates any possible leakage. In critical cases, the barrier oil avoids the creation of air bubbles that would damage the mechanical sealing due to the reduction of the correct lubrication as well as a possibly dangerous combustion due to the direct contact between the atmosphere and the pumped medium.

figure 4 - TCD /2-R/A3-SP/XT  
Active Cooling

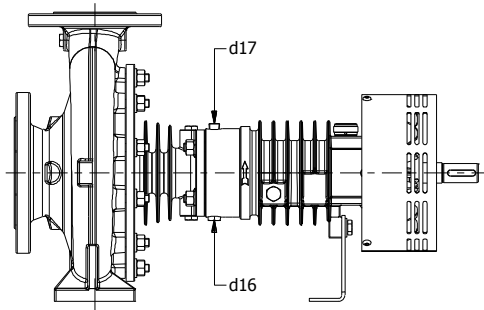
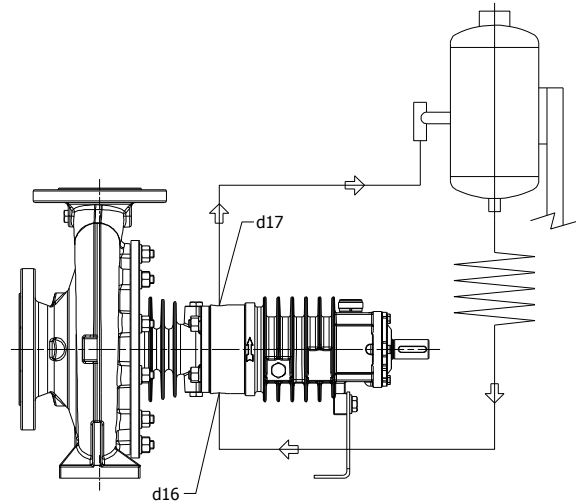
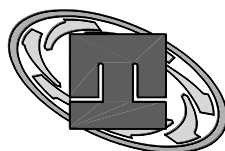


figure 5 - TCD /2-R/A3-SP – All types of constructions  
Reservoir Connection



- d16 Threaded connection - reservoir liquid discharge.  
The connection is provided plugged to contain the safety barrier oil.
- d17 Threaded connection - for reservoir.  
The connection is provided plugged to contain the safety barrier oil.

The **TCD /2-R/A3-SP/XT pumps with Active Cooling** must be coupled to the electric motor so as to always guarantee the passage of air through the openings in the fan cover. Failure to observe these instructions damages their operation.



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