

## TWO WAYS COLLECTOR FOR FLUIDS

### Generality

A cryopump is connected to the helium compressor through two flexlines. In the case of the cryopump must rotate, to solve the problem of flexlines winding is necessary. A two ways rotating collector for pure helium gas has been designed and manufactured for this purpose.

### Description

This device is a system of pure fluid flowing from a fixed to a rotating position. The connected channels are two and can wear a max pressure of 20bar and a temperature up to 200°C.

The machine is made essentially by two parts:

- a fixed part on which command and fluid connections are installed;
- a rotating part on which fluid connections are installed.

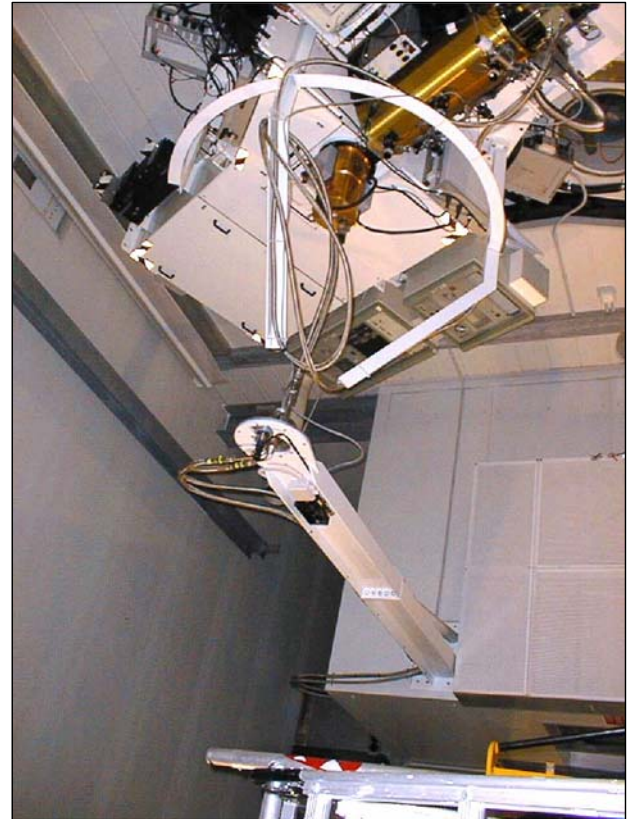
The two parts rotate on a double footstep bearing and on a ball bearing that bear the push generated by the fluid on the dynamic tightness circuit.

On the rotating part an helical gearwheel is machined; on the fixed part a pinion, rotating on bushes, is connected to a NEMA32 stepping motor. The motor runs synchronised with the rotating cryodine head.

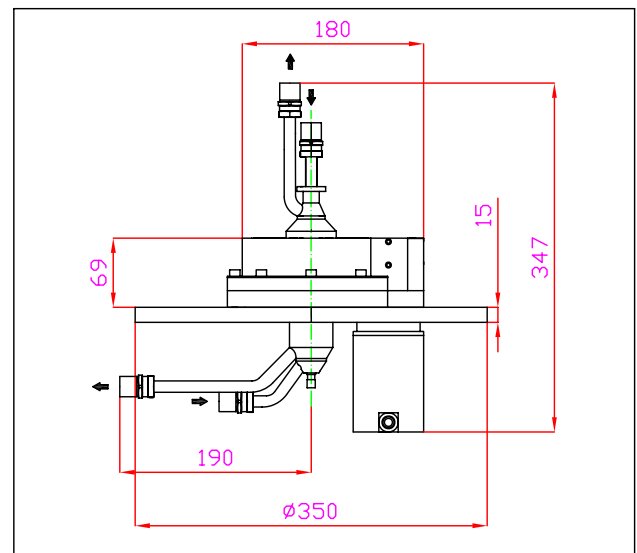
The exposed materials to the fluid are ultra high vacuum (UHV) treated stainless steel and special tight teflon, so there is not contamination in UPP helium circuit.

Standard connections as 1/2" Aeroquip are adopted; in this case the temperature is limited to 80°C.

Other models are available also for aggressive fluids.



Collector mounted on telescope in Las Palmas



MAX PRESSURE bar	RATED FLOW l/min	MAX ROT. SPEED r/min	MAX TEMPERATURE °C
20	53	20	80

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# EIGHT WAYS CONNECTOR FOR HIGH TEMPERATURE

## Generality

Electrical Slip Rings (ESR) are the common means of transmittal electrical power or signals from a stationary to a rotating device.

This new ESR has been designed for eight electrical ways to wear high temperature.

## Description

The ESR has a cylindrical shape and can be mounted in any position. The quality of materials secures reliability and long life : precision ball bearing, kapton insulated wires, silver plated contacts, alumina insulators, stainless steel mechanical parts.

## Mounting arrangement

In the top body : four screwed holes M3 on 50,1mm diam

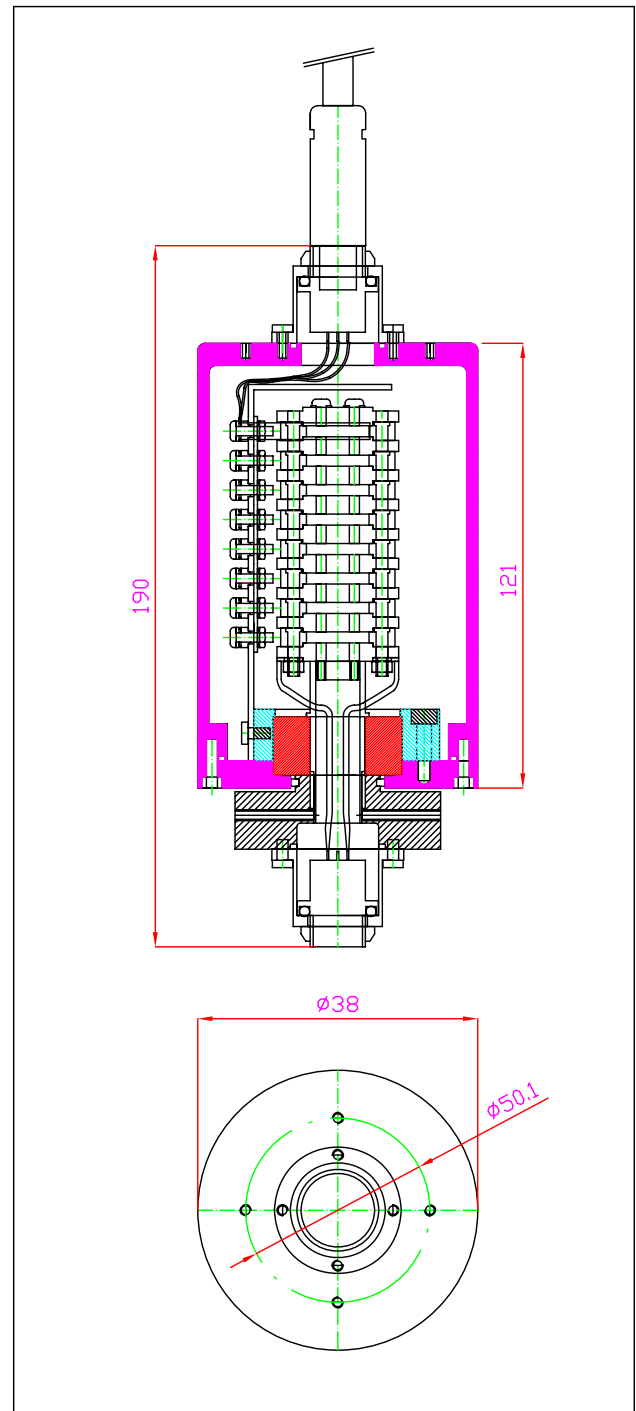
In the bottom pinion : four screwed holes M3 on 46mm diam

## Electrical characteristics

Current rating per ring	: 0,5A
Max over current	: 2A
Dielectric strenght	: 250V <sub>DC</sub>
Insulating resistance	: 100M $\Omega$ at 500V
Contact noise	: 10 $\mu$ V/mA
Lead wire cross section	: 0.86mm
Nominal voltage	: 220V

## Mechanical characteristics

Material	: StSt/CuBe
Operating speed	: 0-100rpm
Life at 100rpm	: 10 <sup>6</sup> rotations
Torque	: <5Ncm
Sealing (according to CEI 70.1)	: IP65
Climatic environment	: -20°C to 200°C
Relative humidity	: 40% to 80%



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