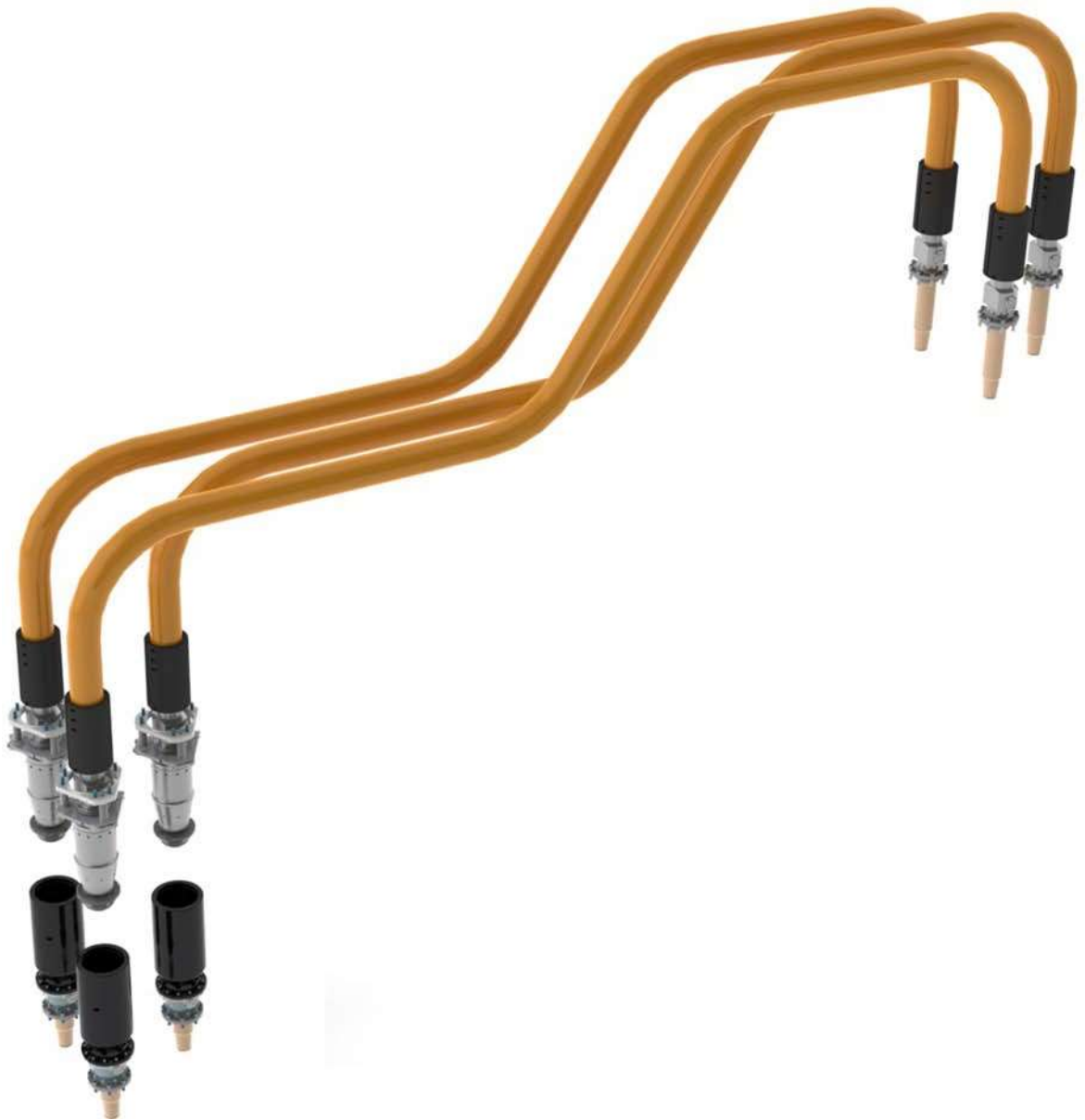




SCM

Systemes et Connectique du Mans



Power series

P18-SW 900

Wet Mate Connection System
18/30 (36) kV - 900 A



Main Characteristics

Electrical characteristics

Rated voltage : $U_0 = 18/30$ (36)kV

Rated current : 900A

Environmental characteristics

Operational pressure : 200 bar (2900 psi)

Operational temperature : -5 to 40°C

Storage temperature : -25 to 70°C

Oil Penetrator

Materials

Housing : Superduplex

Insulators : PEEK

Contacts : Silver plated copper

Weight

In air : 14 kg

In water : 11.5 kg

Gas Penetrator

Materials

Housing : Superduplex

Insulators : PEEK

Contacts : Silver plated copper

Weight

In air : 18.5 kg

In water : 14.5 kg

Male Wet Mate Connector

Material

Housing : AISI 316L for prototypes

Superduplex for serial products

Insulators: PEEK

Contacts : Gold plated copper for serial products

Guiding device : POM

Weight

In air : 44 kg

In water : 30 kg

Female Wet Mate Connector

Material

Housing : AISI 316L for prototypes

Superduplex for serial products

Insulators: PEEK

Contacts : Gold plated copper for serial products

Weight

In air : 57 kg

In water : 44.5 kg

Compliant Mount

Materials

Housing : AISI 316L for prototypes

Superduplex for serial products

Plain bearings : Inconel

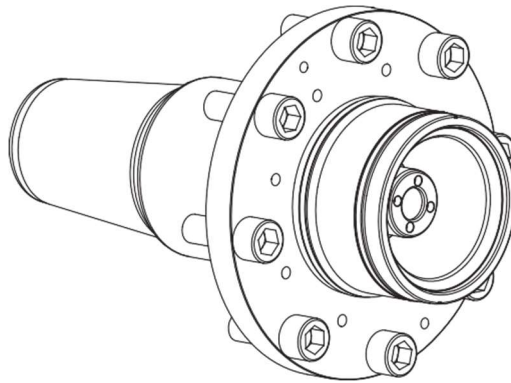
Spring : MP35N

Weight

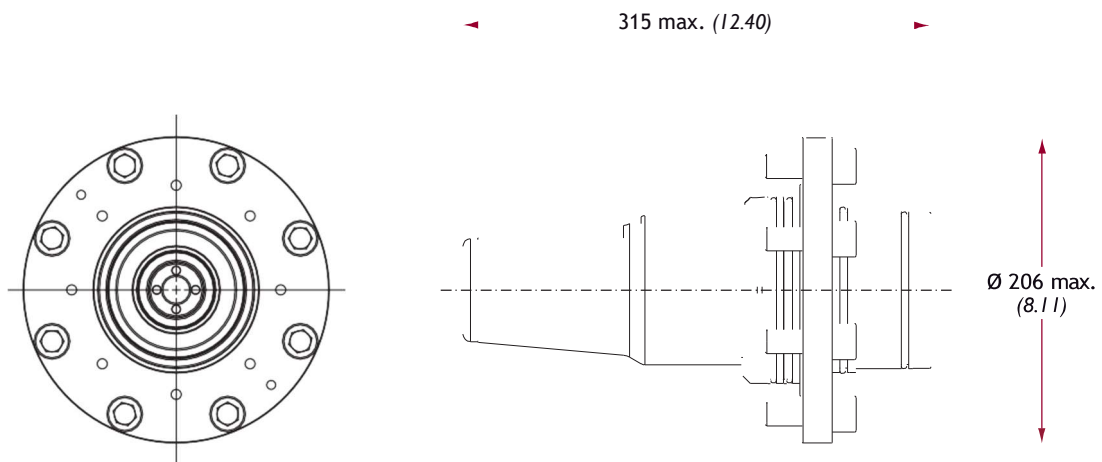
In air : 12 kg

In water : 10.5 kg

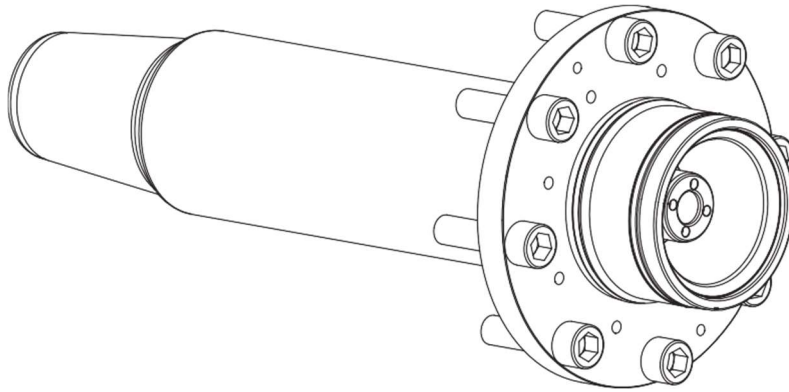
- Part Numbers : 177-8090-00



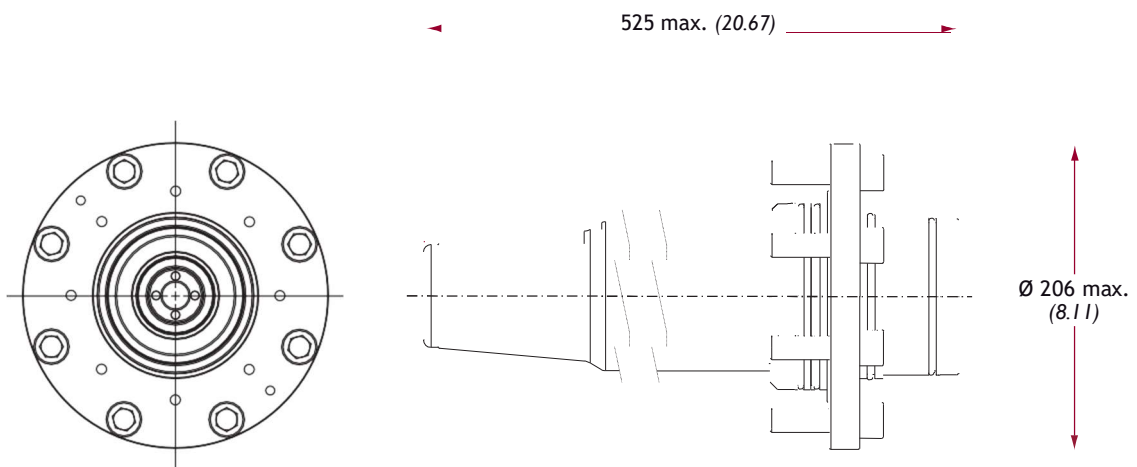
- Dimensions - mm (*inch*)



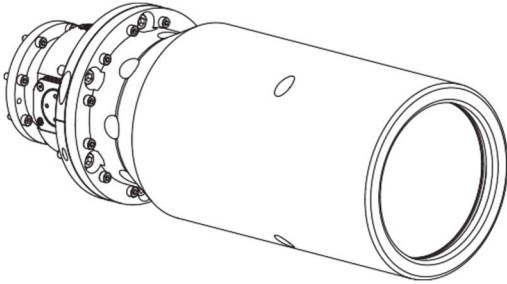
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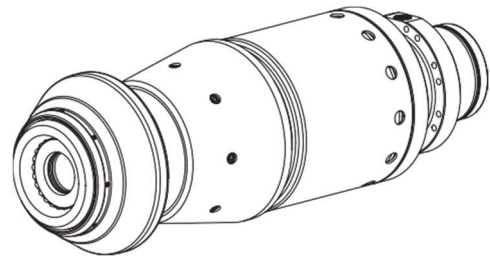
- Dimensions - mm (*inch*)



- Part Numbers : I77-8091-** (Male) & I77-8092-** (Female)

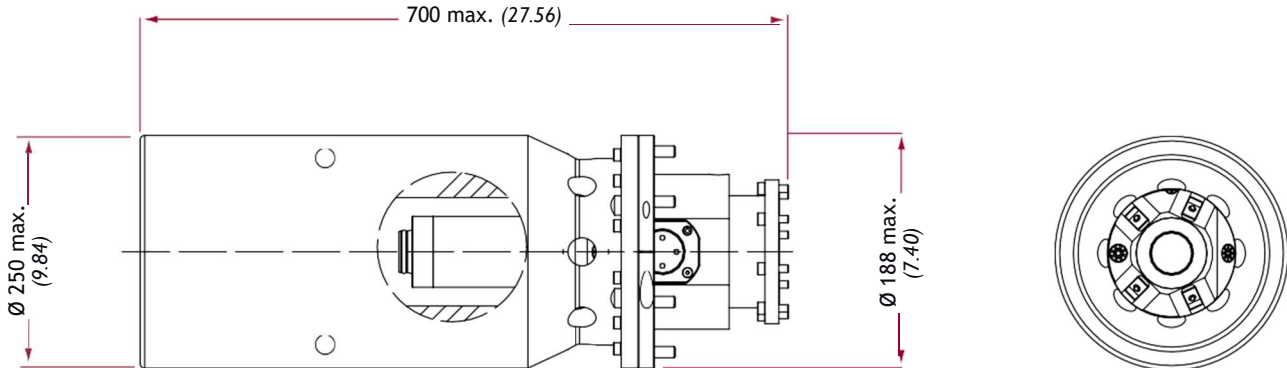


Wet Mate Male

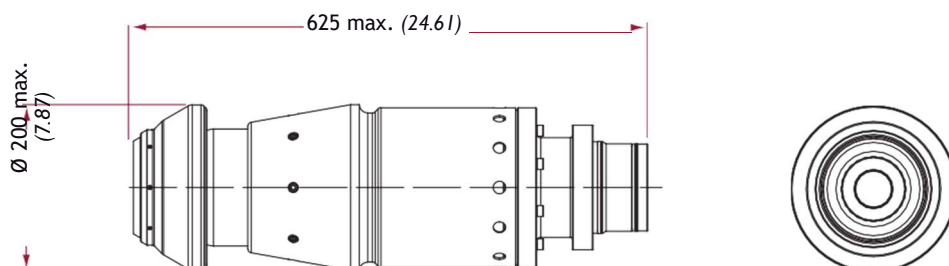


Wet Mate Female

- Wet Mate Male - mm (inch)

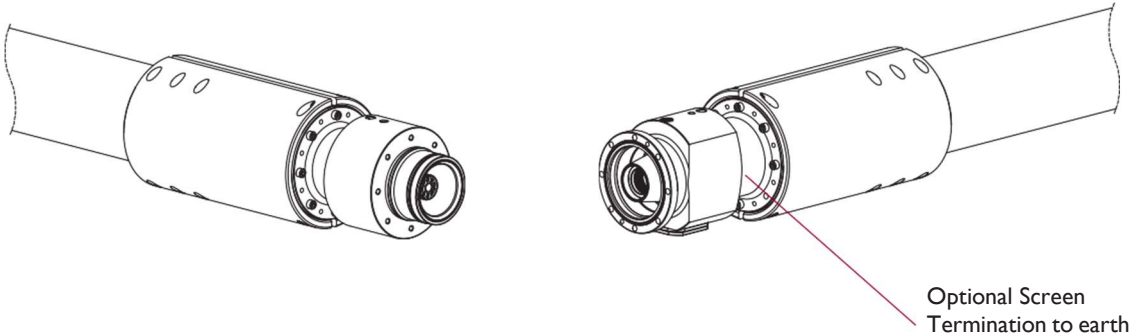


- Wet Mate Female - mm (inch)

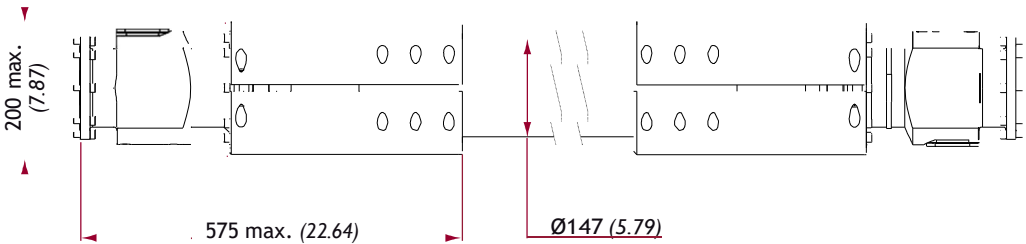


- **Part Numbers :** 177-8093-1* (male/male)
177-8093-2* (female/female)
177-8093-3* (male/female)

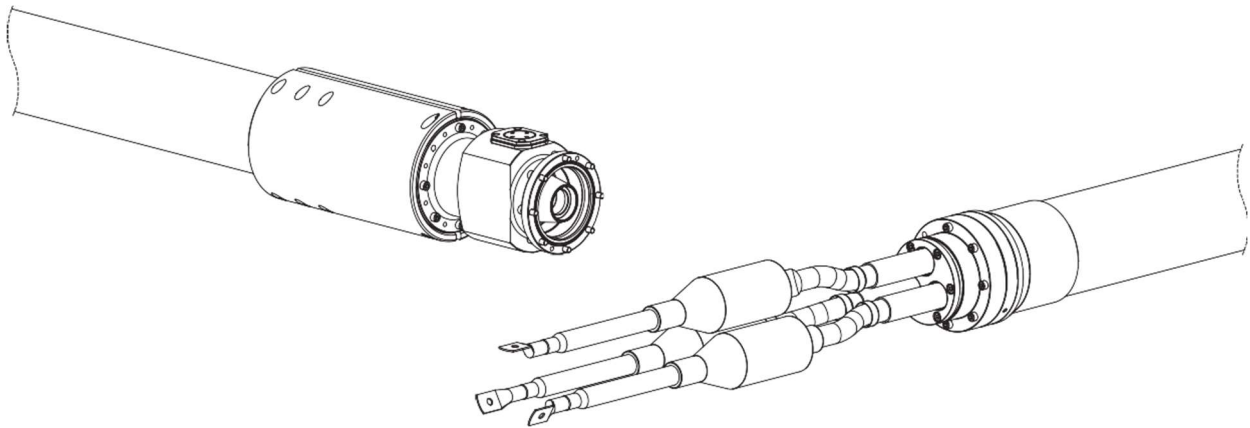
* For length, contact us.



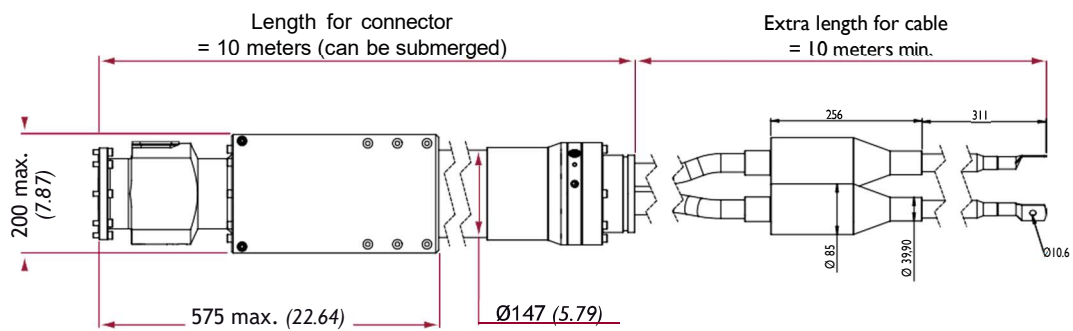
- **Dimensions mm (inch)**



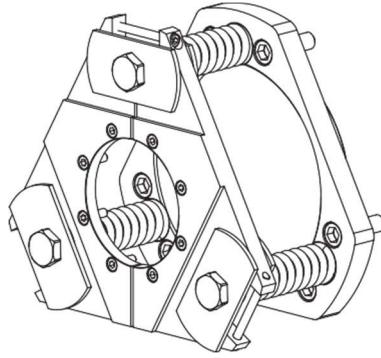
- Part Numbers : 177-8093-99



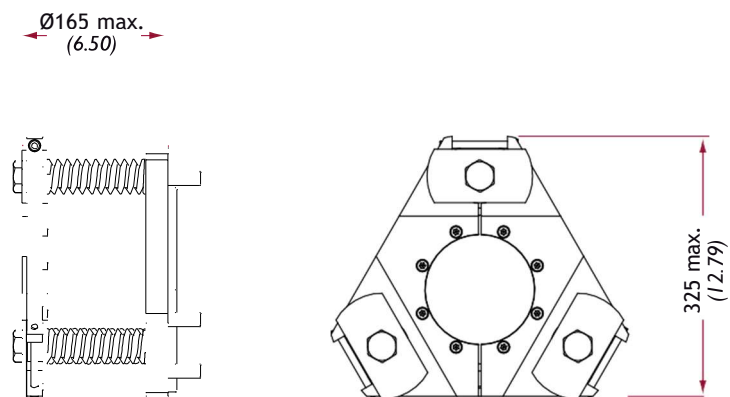
- Dimensions mm (inch)



- Part Numbers : 177-8097-00



- Dimensions mm (*inch*)



Fully compliant the NHT-E51-00029 rev03M

Test Type	Tests	Standards	"Test Conditions Acceptance Criteria"
Visual and Dimensional inspection	Dimensional and weight measurement	-	Compliant with drawings
	Visual examination	-	Compliant with drawings
Electrical Tests	Contact Resistance Test (CR Test)	IEC 61238-1	<0,1m Ω per contact
	Shell Continuity	IEC 61238-1	<20m Ω per contact
	Screen Continuity	IEC 61238-1	<20m Ω per contact
	Impulse Voltage Test	IEC 61442 & IEC 60060-1	10 negative pulses and 10 positive pulses, with a peak value of 170 kV : no breakdown or flashover
	High Voltage AC Test (HVac Test)	IEC 61442 & IEC 60502-2	72 kV applied for 4 hours: no breakdown or flashover
	Insulation Resistance (IRdc)	-	>10 G Ω (at 5000 \pm 50 V DC - 3 & 10 min.
	Partial Discharge Test (PD Test)	IEC 60270 & IEC 60885-2	<10 pC at 31,2 & 36 kV AC
	Thermal Cycles in Air / Water	-	1000 A / 8h hours cycle, 30 cycles : no degradation or damage
	Temperature Rise Test	IEC 60694	Temperature rise below 50 K on the conductors - 1000A applied
	Thermal Short Circuit Tests	IEC 61442	9000A within 5 sec. : no degradation or damage
	Dynamic Short Circuit Tests	IEC 61442	N/A
Electrical Breakdown	IEC 61442 & IEC 60502-2	Breakdown voltage > 108 kV	
Mechanical Tests	Helium Leak Test	-	< 1.10 ⁻⁶ atm.cm ³ /s
	Mating Force in air / Maximum misalignment	-	Mating force < 800 N Unmating force < 12000 N
	Mating Force in turbid water / Maximum misalignment	-	Mating force < 800 N Unmating force < 12000 N
	Thermal Shock Test	-	70°C - 0 to 4,5°C x 3 cycles -25°C - 20 to 24,5°C x 3 cycles No degradation or damage
	Mechanical Shock Test	-	Half sine 30g 11ms 3 shocks in horizontal & 3 shocks in vertical No degradation or damage
	Jumper or Cable Pull Test	-	5000 N pulling force No degradation or damage
	Vibration Tests	-	5 Hz to 25 Hz : \pm 2 mm displacement 25 Hz to 150 Hz : 3g acceleration Sweep rate : 1 octave per min Double sweep from 5 to 150 Hz and back to 5 Hz No degradation or damage
	Drop Test	-	500 mm above floor covered with a 5 mm thick rubber material No degradation or damage
	Environmental test screening	-	10 minutes with : - 20 Hz to 80 Hz : 3 dB per octave rise - 80 Hz to 350 Hz : 0.04 g ² /Hz - 350 Hz to 2000 Hz : 3 dB per octave roll off Composite excitation level shall be 6 g rms No degradation or damage
	Bending/Twisting Jumper Test	-	300 cycles bending to minimum radius 300 cycles to twisting to maximum rotational angle No degradation or damage
	Hyperbaric Pressure Tests	Pressure testing (Wet mating tests)	-
Long Term Qualification Test		-	Pressure test at 300 bar for 21 days 10 mating cycles : electrical performances remain within specifications
Flooded Back End Test (combined with the long term flooded back end test)		-	25 cycles / 0-300 bars 300 bar during 1000 hours Electrical performances remain within specifications