

### APPLICATIONS

- > Fast steering mirror
- > Point ahead mechanism
- > Line of sight stabilisation
- > Microscanning
- > Pointing

### KEY FEATURES

- > Compact
- > Low capacitance
- > High resonance frequency
- > Space heritage

### RELATED PRODUCTS

- > CCB $\mu$ 20
- > CCB $\mu$ 40

### AVAILABLE OPTIONS

- > Vacuum

### AVAILABLE INTERFACES

- > Specific mirror interface



NON CONTRACTUAL PICTURE

PARAMETER	TYPICAL VALUE	UNIT
<b>&gt; Quasistatic performances <sup>(1)</sup></b>		
Nominal stroke	2.8	mrad (+/-)
Minimal stroke	2.5	mrad (+/-)
Blocked force	19	N
Stiffness	2	N/ $\mu$ m
Resolution <sup>(2)</sup>	0.3	$\mu$ rad
<b>&gt; Dynamic performances</b>		
Force limit (0-peak) <sup>(3)</sup>	13.5	N
Unloaded Blocked - free resonance frequency <sup>(4)</sup>	1 000	Hz
<b>&gt; Driving</b>		
Voltage range	-20/150	V
Capacitance <sup>(5)</sup>	0.5	$\mu$ F
<b>&gt; Dimensions &amp; interfaces</b>		
Height	25	mm
Diameter	45	mm
Mass <sup>(6)</sup>	90	g
<b>&gt; Mechanical interfaces</b>	See ICD	
<b>&gt; Optical interface</b>	See ICD	
<b>&gt; Electrical interfaces <sup>(7)</sup></b>	See ICD	

### ANNOTATIONS

*Guaranteed in labs environment. A misused can lead to temporary or definitive alterations of properties. Contact CEDRAT TECHNOLOGIES prior using actuators under non standard technical conditions*

*(1) AC voltage, full range @ 1Hz*

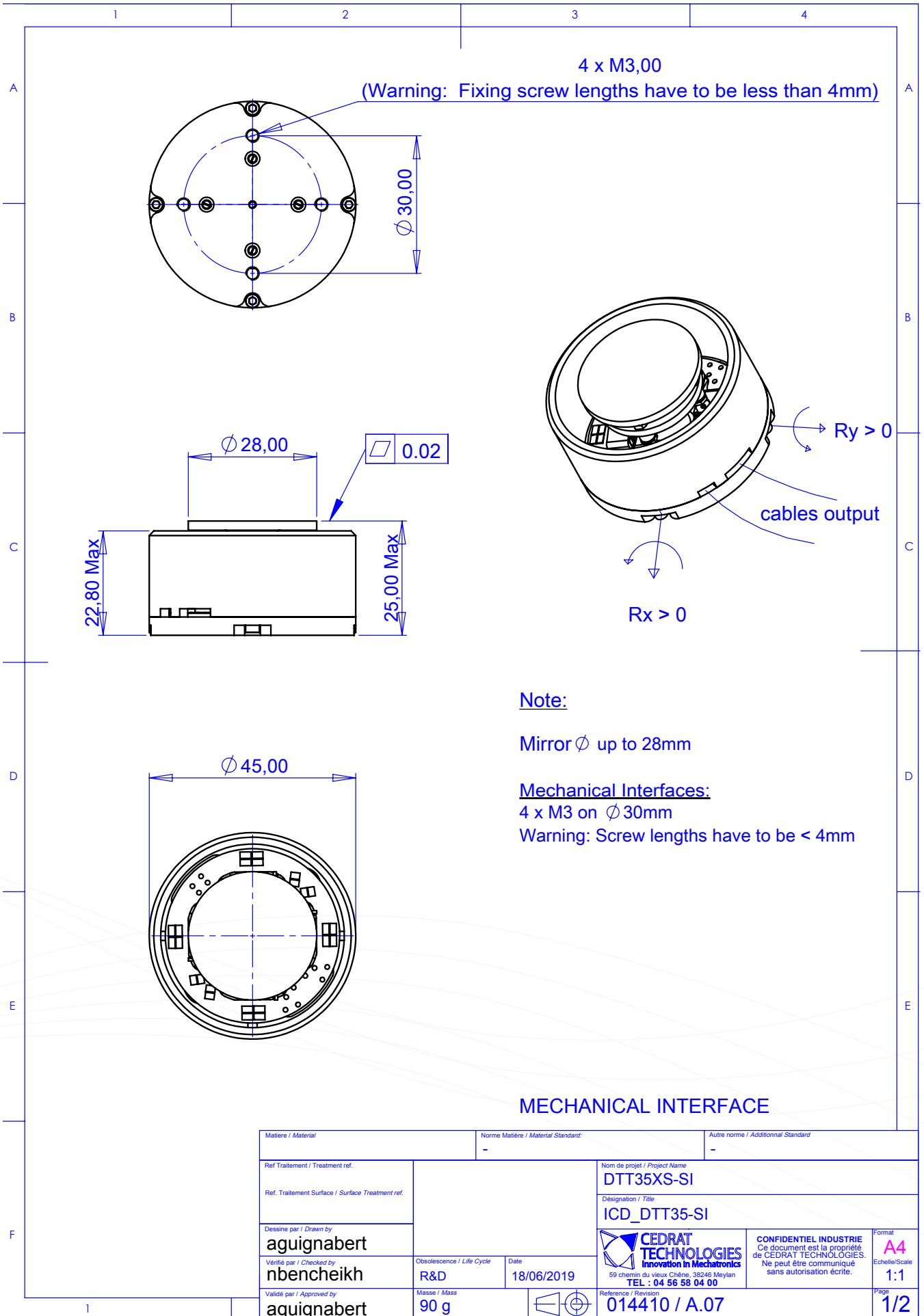
*(2) With low noise amplifier SNR=1dB*

*(3) Pulling or pushing force, valid up to 1/3 of the unloaded blocked-free resonance frequency*

*(4) Blocked-free: The actuator is fixed to a mechanical support assumed infinitely stiff*

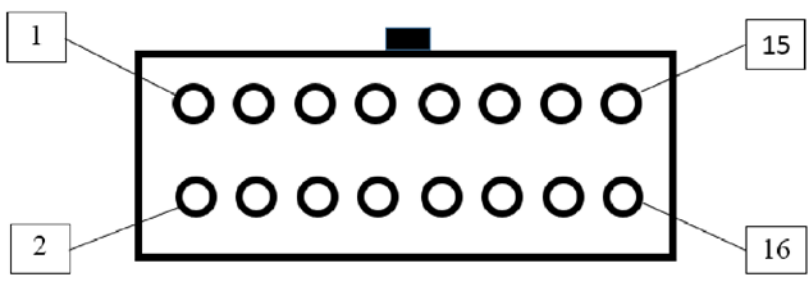
*(5) Per electrical port, quasistatic excitation, free-free, on the admittance curve*

*(6) unloaded, excluding wires*



## Pin Out table for SUB-D option

PIN NUMBER	SIGNAL	DESCRIPTION
1	VREF	Internal reference signal output (+5V)
2	AGND	Analog ground return for the mechanism
3	SG X+	SG+ output for X axis
4	SG X-	SG- output for X axis
5	SG Y+	SG+ output for Y axis
6	SG Y-	SG- output for Y axis
7	-	
8	-	
9	PGND	Power ground return for the mechanism
10	PGND	Power ground return for the mechanism
11	PGND	Power ground return for the mechanism
12	PGND	Power ground return for the mechanism
13	+130	+130V push-pull rail input for the piezo-actuators
14	PGND	Power ground return for the mechanism
15	VX	Input voltage for the Rx axis piezo-actuators of the mechanism
16	VY	Input voltage for the Ry axis piezo-actuators of the mechanism



Connector reference: HARWIN M80-4801642 16 pins

**Electrical Interfaces (LEMO option):**

- Piezo actuators: Wire length 1.5m
- Lémo FGG.00.303.CLAD22
- Cable X to actuate around Ox Axis
- Cable Y to actuate around Oy Axis

- SG Option: Wire length 1.5m
- Lémo FGG.00.304.CLAD22

### ELECTRICAL INTERFACE

Matière / Material		Norme Matière / Material Standard:		Autre norme / Additional Standard	
Ref Traitement / Treatment ref.		Tolérances générales selon ISO2768-fH General tolerances according to ISO2768-fH		Nom de projet / Project Name	
Ref. Traitement Surface / Surface Treatment ref.		Ra = 1.6 max Ebavurage/Deburring : chamf. 45° 0.1 to 0.2 Rayon Raccord./Radius Curvature : 0.1 to 0.4		Designation / Title	
Dessine par / Drawn by		Battement/Run Out: 0.1mm Symétrie/Symmetry: 0.5mm		ICD_DTT35-SI	
Vérifié par / Checked by		Obsolescence / Life Cycle		Date	
agnignabert		R&D		18/06/2019	
Validé par / Approved by		Masse / Mass		Reference / Revision	
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