Data Sheet

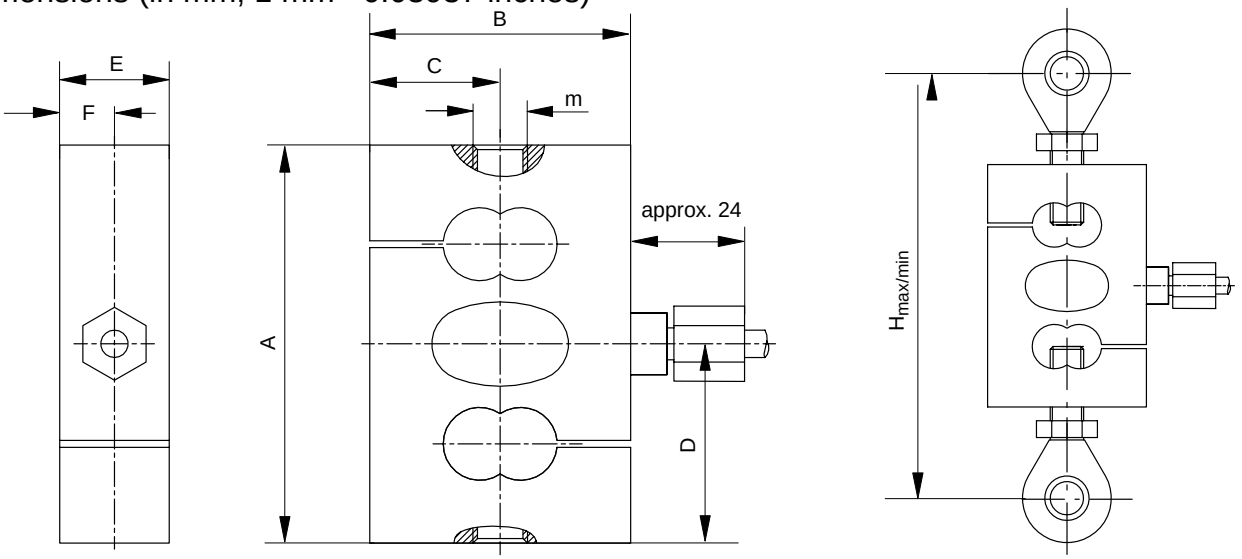
S9

Force Transducers

Special features

- **Tensile force / compressive force transducer**
- **Nominal forces 2 kN ... 50 kN**
- **Accuracy class 0.05**
- **High transverse force stability**

Dimensions (in mm; 1 mm= 0.03937 inches)



Nominal force (kN)	A	B	C	D	E	F	m	H_{max}	H_{min}
2-10	87.3	57.2	28.6	43.7	24	12	M12	172	153
20	100	69.8	34.9	50	30.2	15.1	M24x2	220	206
50	100	76.2	38.1	50	36.6	18.3	M24x2	260	256

Specifications under VDI 2638

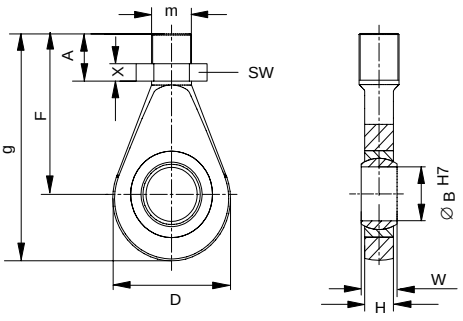
Force transducer type			**S9**				
Nominal force	F_{nom}	kN	2	5	10	20	50
Accuracy class			0.05				
Nominal sensitivity	C_{nom}	mV/V	2				
relative sensitivity deviation tensile/compressive force	d_c	%	< 0.25				
relative tensile/compressive sensitivity difference	d_{zd}	%	< ±0.1				
relative deviation from zero	$d_{s,o}$	%	< 5				
Relative range of inversion ($0.2F_{nom}$ to F_{nom})	u	%	0.1				
Linearity deviation	d_{lin}	%	0.05				
Temperature effect per 10 K by reference to sensitivity							
to sensitivity	TK_c	%	0.05				
to zero signal	TK_0	%	0.05				
Effect of transverse forces (transverse force 10 % F_{nom}) *)	d_Q	%	±1				
Creep over 30 min.	d_{crF+E}	%	< ±0.05				
Input resistance	R_e	Ω	> 345				
Output resistance	R_a	Ω	300 - 400				
Isolation resistance	R_{is}	GΩ	> 1				
Reference excitation voltage	U_{ref}	V	5				
Operating range of the excitation voltage	$B_{U,G\,T}$	V	0.5...12				
Nominal temperature range	$B_{t,nom}$	°C [°F]	–10...+70[14...158]				
Operating temperature range	$B_{t,G}$	°C [°F]	–30...+85[–22...185]				
Storage temperature range	$B_{t,S}$	°C [°F]	–30...+85[–22...185]				
Reference temperature	t_{ref}	°C [°F]	+22[71.6]				
Maximum operating force	(F_G)	%	150				
Limit force	(F_L)	%	150				
Breaking force	(F_B)	%	> 300				> 250
Limit torque	(M_d)	Nm	6	15	30	60	150
Static lateral limit force*	(F_Q)	%	10				
Nominal displacement	S_{nom}	mm	< 0.4				< 0.5
Fundamental resonance frequency	f_G	kHz	1.6	2.2	2.7	2.4	2.6
Relative permissible vibrational stress	F_{rb}	%	70				
Weight		kg		0.77		1.6	1.8
Degree of protection to DIN EN 60529			IP65				
Cable length, 6–wire connection		m	6				

*) by reference to a force introduction point on the force–introduction surface

Accessories (option):

Knuckle eye: ZGUW

Dimensions in mm



Material: tempering steel, galvanised; rolled steel and PTFE/bronze fabric foil

Nominal force (kN)	Weight [kg]	A	∅B^{H7}	D	F	g	H	m	X	W	SW
0.5...10	0.1	33.5	12	32	54.5	70.5	12	M12	7	16	19
20...50	0.4	57.5	25	60	94.5	124.5	22	M24x2	10	31	36

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