

Type	Low friction cables				Utility cables			Commercial cables	
Duty	-V- (VLD)	-L- (LD)	-M- (MD)	-H- (HD)	-V- (VLD)	-L- (LD)	-M- (MD)	-V- (VLD)	-L- (LD)
Conduit colour	Green				Grey			Black	
Temperature capability	-50°C / +150°C				-50°C / +110°C			-50°C / +110°C	
Minimum bend radius	50	75	125	150	50	75	125	125	180
Working load in N	360/540	680/1050	1130/1800	3170/4530	360/540	680/1050	1130/1800	180/450	450/680
Maximum overload in N	540/820	1050/1580	1800/2700	4530/6800	540/820	1050/1580	1800/2700	270/680	680/1050
	For travel 50mm (for another travel see cable specifications)								
End rod thread	M5	M6	M8	M10	M5	M6	M8	M5	M6
Materials	Inner member	Carbon steel rope+car.steel armor+PTFE cover			Carbon steel rope+car.steel armor (Carbon steel rope+stainless armor)			Sainless wire	Steel rope+ steel armor
	End rods	Stainless steel			Stainless steel			Stainless steel	
	Conduit fittings	Zinc plated steel/Stainless steel			Zinc plated steel/Stainless steel			Zinc plated /Stainless	
	Support tubes	Stainless steel			Zinc plated steel/Stainless steel			Zinc plated /Stainless	
Appilacion	Maximum efficiency & flexibility for high lenght & small radius of bends				Very good efficiency & flexibility for wide range applications			Economy with smooth operation	

PUSH-PULL CABLES - Part Number Ordering Code

183-M-TG-75-5000

Construction

- 773-Black=Commercial+stainless steel end rods+ zinc plated support tubes and conduit caps
- 173-Grey=Utility+stainless steel end rods+ zinc plated support tubes and conduit caps
- 174-Grey=Utility+stainless steel innermember, end rods, support tubes and conduit caps
- 183-Green=Low friction+stainless steel end rods and support tubes+zinc plated conduit caps

Duty

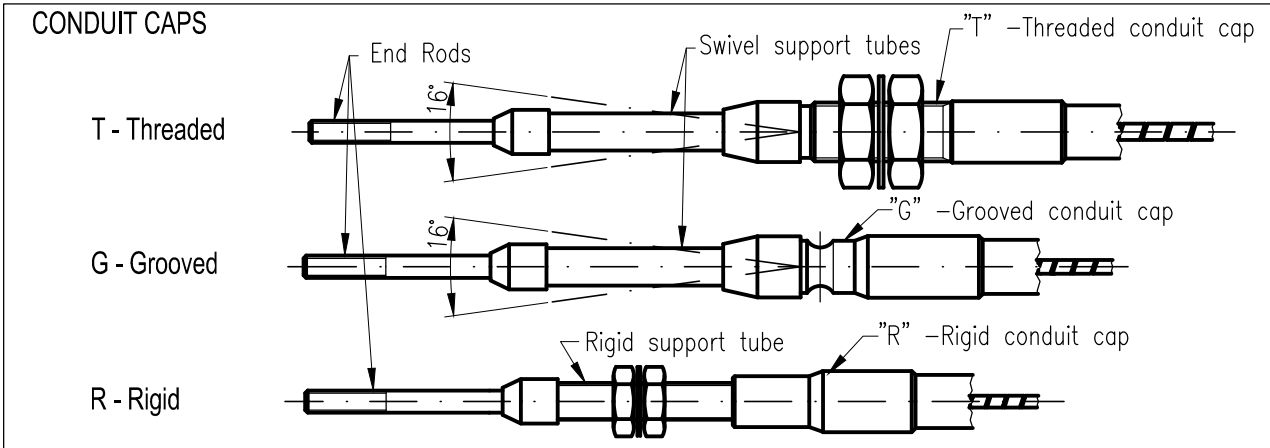
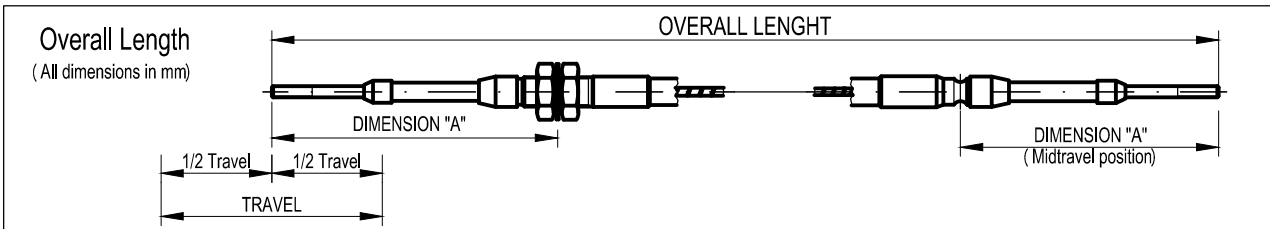
- V- Very Light Duty
- L- Light Duty
- M- Medium Duty
- H- Heavy Duty

Conduit caps

- TT-Threaded on both ends
- GG-Grooved on both ends
- RR-Rigid on both ends
- TG, TR, GR in combination

Travel 25, 50, 75, 100, 125, 150 (mm)

Overall length (mm)



Backlash & Efficiency	Low friction cables		Utility cables		Commercial cables	
	Backlash factor k1	Efficiency factor k2	Backlash factor k1	Efficiency factor k2	Backlash factor k1	Efficiency factor k2
V - Very Light Duty	0,004	0,0005	0,004	0,001	0,006	0,001
L - Light Duty	0,005	0,0005	0,005	0,001	0,008	0,001
M - Medium Duty	0,006	0,0005	0,006	0,001		
H - Heavy Duty	0,008	0,0005				

$T = k1 \times \Delta$

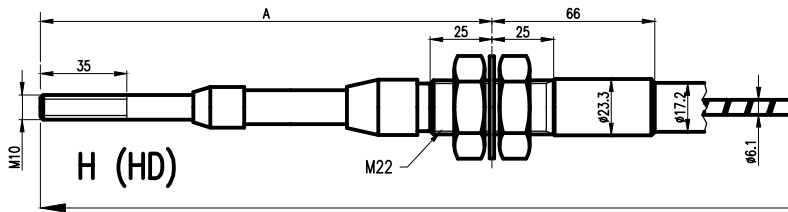
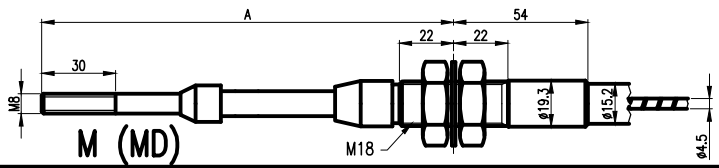
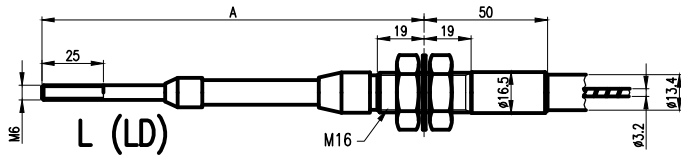
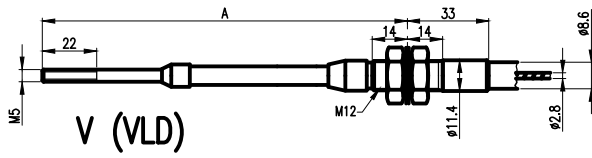
Backlash (lost motion) (T) = Backlash factor (k1) x degrees of bend (Δ)
 Example: T = 0,004 x 180° = 0,72 (Backlash is 0,72mm)

$F1 = F2 \times \Delta \times k2 + F2$

Input force (F1) = Output load (F2) x degrees of bend (Δ) x Efficiency factor (k2) + Output load (F2)
 Example: F1 = 250 x 180° x 0,0005 + 250 = 272,5 (Input load is 272,5N)

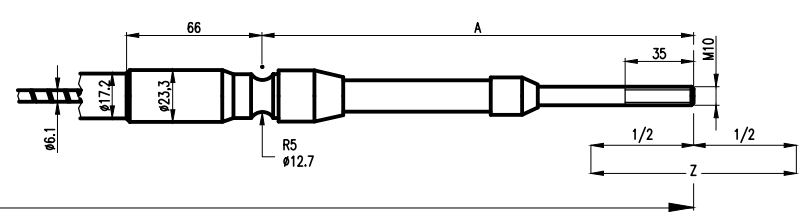
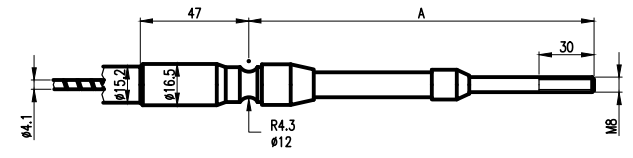
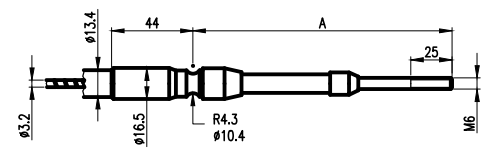
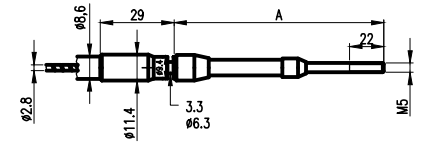
PUSH-PULL CABLES END FITTINGS AND PARAMETERS

THREADED SWIVEL CONDUIT FITTING

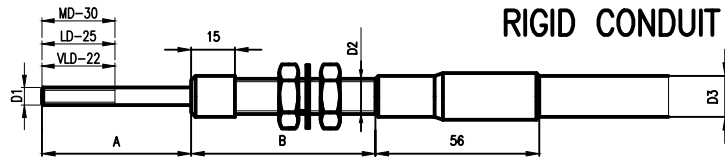


Threaded fitting at mid-level position	Travel	Working input load	Maximum input overload	Grooved swivel at mid-level position	
					A mm
V (VLD)	111	25	360/ 540	540/ 820	94
	148	50	360/ 540	540/ 820	132
	186	75	320/ 540	500/ 820	170
	225	100	270/ 540	400/ 820	208
	264	125	200/ 540	320/ 820	246
	301	150	160/ 540	200/ 820	284
L (LD)	117	25	680/1050	1050/1580	102
	155	50	680/1050	1050/1580	140
	194	75	570/1050	860/1580	178
	232	100	450/1050	680/1580	216
	270	125	340/1050	500/1580	254
	308	150	230/1050	340/1580	292

GROOVED SWIVEL CONDUIT FITTING



RIGID CONDUIT FITTING



VLD-LD-MD

TYP	A						B						D1		D2		D3	
	25	50	75	100	125	150	25	50	75	100	125	150	M	M	φ	φ		
VLD	38	51	64	76	89	102	37	63	89	114	140	166	5	8x1	8,1	8,6		
LD	41	54	67	79	92	105	37	63	89	114	140	166	6	12x1	10,6	13,5		
MD	45	58	71	84	97	112	39	65	91	116	142	168	8	12x1	14,2	15,2		