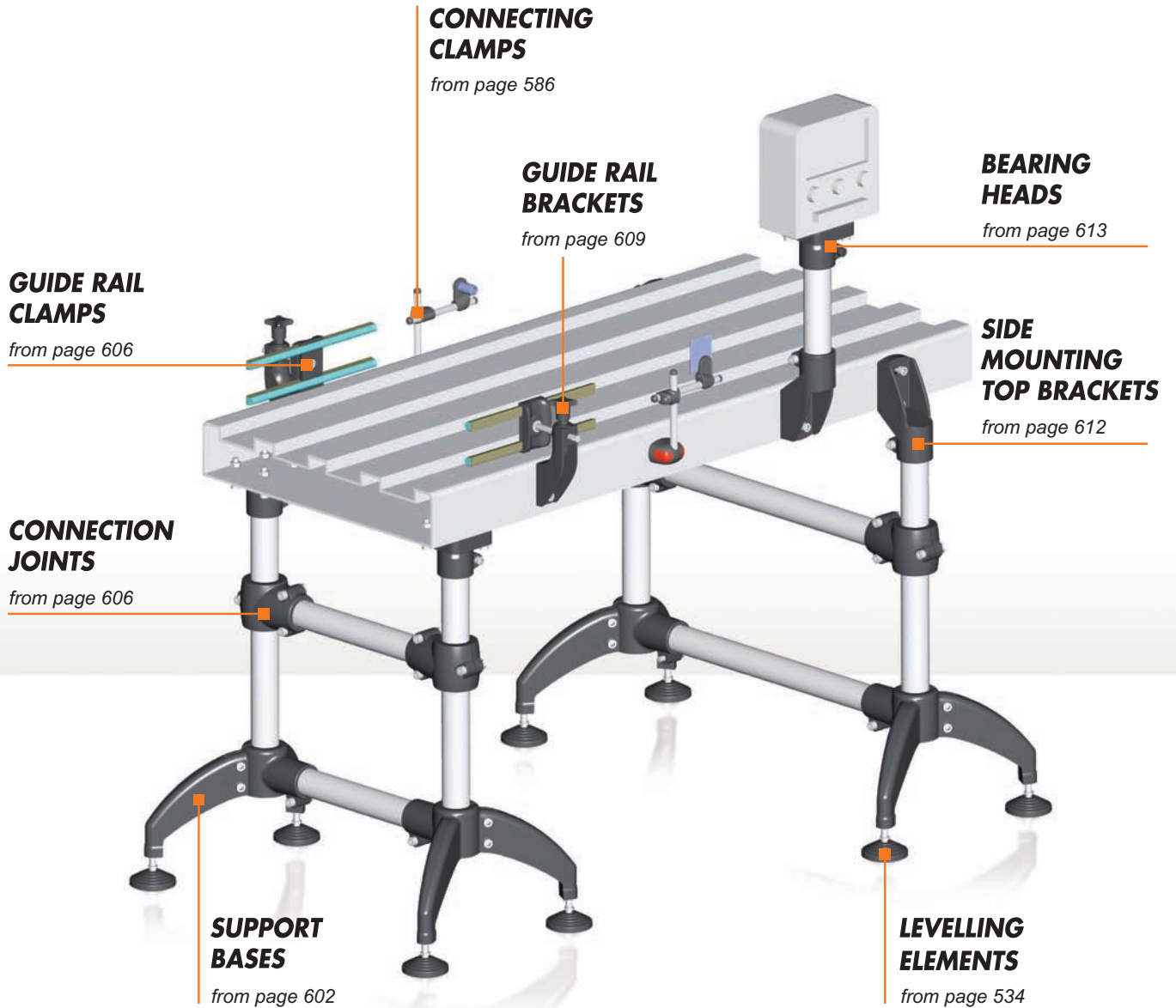


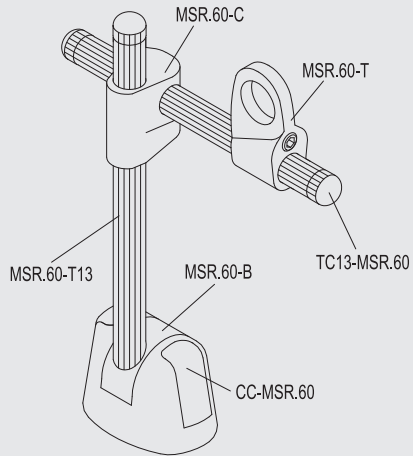
# Flexible Automation Components



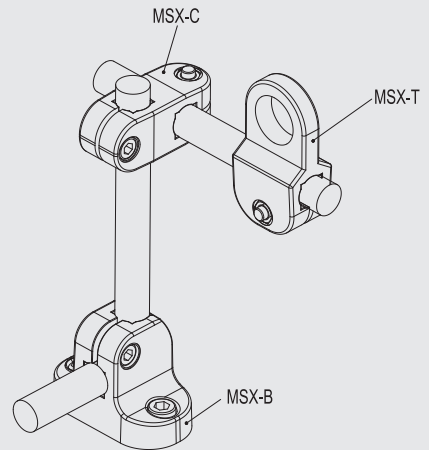
# CONNECTING CLAMPS

examples of compositions

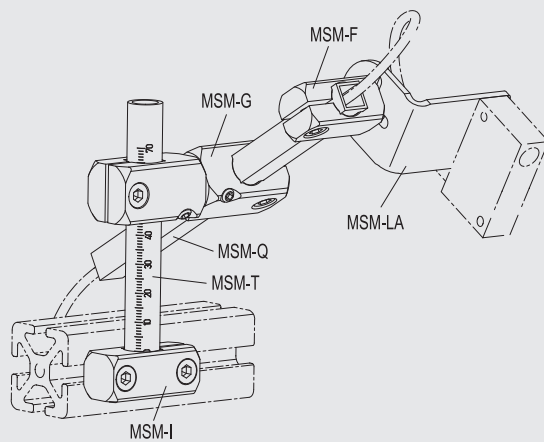
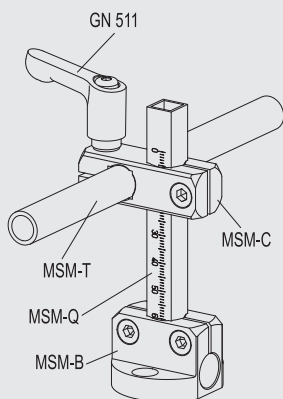
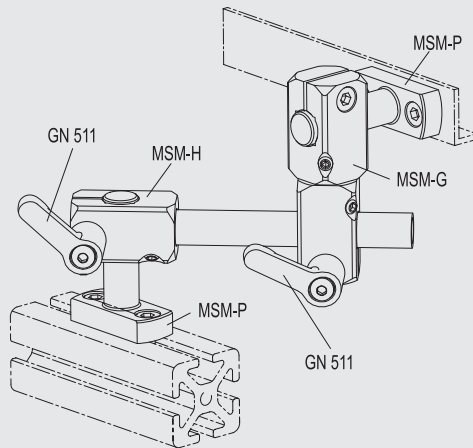
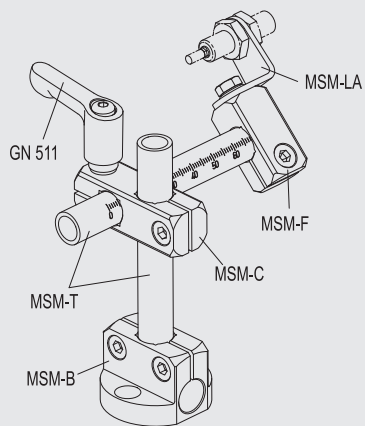
## MSR.



## MSX.



## MSM series



## Connecting clamps



### • Standard components

#### - MSX-B base:

glass-fibre reinforced polyamide based (PA) technopolymer, black colour, matte finish.

Fitting by means of a stainless steel M5 cylindrical-head screw with hexagon socket and nut.

#### - MSX-C T-shaped clamp:

glass-fibre reinforced technopolymer, black colour, matte finish.

Fitting by means of stainless steel M5 cylindrical-head screws with hexagon socket and nuts.

#### - MSX-TA-TB-TC-TD-TE-TF device clamps:

glass-fibre reinforced technopolymer, black colour, matte finish.

Fitting by means of a stainless steel M5 cylindrical-head screw with hexagon socket and nut.

### Features and applications

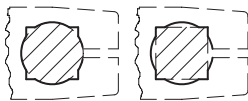
The geometry of the holes of MSX. series connecting clamps are designed to fit both tubes with round cross section and tubes with square cross section; the latter prevents the elements from rotating (see Fig. 1).

### Assembly instructions

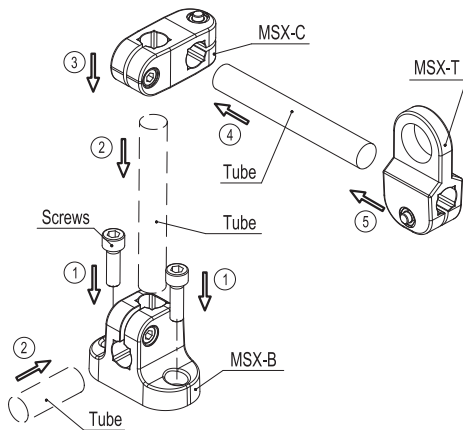
- 1) Fit the base by means of 2 M6 cylindrical-head screws with hexagon socket (not supplied).
- 2) Fit the connecting tube into the hole of the base and clamp it by screwing the set screw. Suggested tightening torque 5 Nm.
- 3) Insert the T-shaped clamp which allows the assembly of another connecting tube.
- 4) Fit the other connecting tube into the hole of the T-shaped clamp.
- 5) Fit onto the connecting tube the desired device clamp chosen among the six available ones. After the positioning of the components, clamp them by screwing the set screws. Suggested tightening torque 5 Nm.

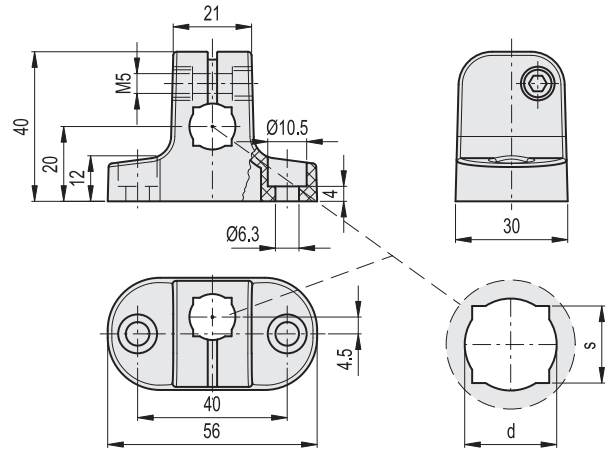


Fig.1



### Assembly instructions





### MSX-B

Elesa Standards		Mounting holes		Pull out resistance #	Rotation resistance #	△△
Code	Description	s	d	[N]	[Nm]	g
440101	MSX.56-B-8-10	8	10	900	4	32
440102	MSX.56-B-10-12	10	12	1000	4.5	31
440103	MSX.56-B-12-14	12	14	1100	5	28

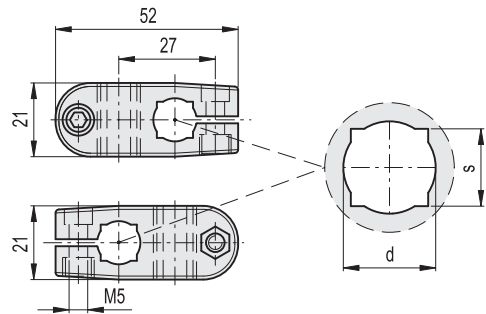
# Tests carried out with round tube.



### MSX-C

Elesa Standards		Mounting holes		Pull out resistance #	Rotation resistance #	△△
Code	Description	s	d	[N]	[Nm]	g
440121	MSX.56-C-8-10	8	10	900	4.5	24
440122	MSX.56-C-10-12	10	12	1000	5	23
440123	MSX.56-C-12-14	12	14	1100	5.5	20

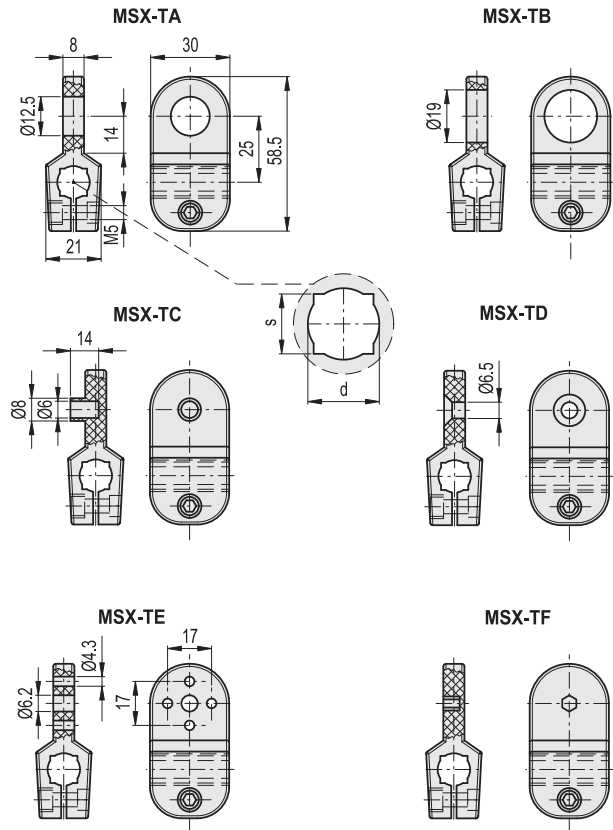
# Tests carried out with round tube.



### MSX-TA - TB - TC - TD - TE - TF

Elesa Standards		Mounting holes		Pull out resistance #	Rotation resistance #	△△
Code	Description	s	d	[N]	[Nm]	g
440131	MSX.56-TA-8-10	8	10	900	4	23
440132	MSX.56-TA-10-12	10	12	1000	4.5	22
440133	MSX.56-TA-12-14	12	14	1100	5	21
440135	MSX.56-TB-8-10	8	10	900	4	21
440136	MSX.56-TB-10-12	10	12	1000	4.5	20
440137	MSX.56-TB-12-14	12	14	1100	5	19
440139	MSX.56-TC-8-10	8	10	900	4	25
440140	MSX.56-TC-10-12	10	12	1000	4.5	24
440141	MSX.56-TC-12-14	12	14	1100	5	23
440143	MSX.56-TD-8-10	8	10	900	4	24
440144	MSX.56-TD-10-12	10	12	1000	4.5	23
440145	MSX.56-TD-12-14	12	14	1100	5	22
440147	MSX.56-TE-8-10	8	10	900	4	23
440148	MSX.56-TE-10-12	10	12	1000	4.5	22
440149	MSX.56-TE-12-14	12	14	1100	5	21
440151	MSX.56-TF-8-10	8	10	900	4	24
440152	MSX.56-TF-10-12	10	12	1000	4.5	23
440153	MSX.56-TF-12-14	12	14	1100	5	22

# Tests carried out with round tube.



Connecting clamps

## Connecting clamps



### Standard components

- **MSR.60-B base:**  
glass-fibre reinforced polyamide based (PA) technopolymer, black colour, matte finish.
- **CC-MSR.60 screw covers:**  
technopolymer in six colours, glossy finish.  
Supplied, push-fit assembly, removable by a screwdriver.  
Available also as accessories sold separately (see table).

Code	Description	Caps per
440011*	CC-MSR.60*	MSR.60-B

\* Complete with colour index (C9, C2,....., C6).

- **MSR.60-C T-shaped clamp:**  
glass-fibre reinforced technopolymer, black colour, matte finish.
- **MSR.60-TA-TB-TC-TD-TE-TF device clamps:**  
glass-fibre reinforced technopolymer, black colour, matte finish.
- **MSR.60-T13 connecting tubes:**  
aluminium profile available with standard lengths from 100 to 2000 mm.  
On request and for sufficient quantities other lengths are available.
- **Connecting tube closing caps:**  
glass-fibre reinforced technopolymer, black colour, matte finish.  
Supplied, push-fit assembly.  
To be ordered also separately (code 440016 description TC13-MSR.60).

### Features and applications

MSR. connecting clamps, designed according to ELESA patent, allow an easy and efficient connection between the components, preventing the risk of rotating freely.  
The system allows the axial, perpendicular or angled positioning of the connecting tube to the base.

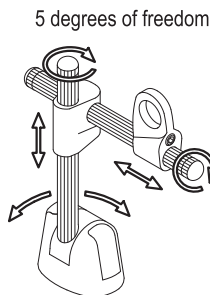
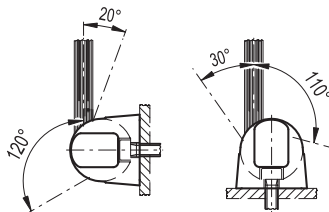
### Advantages

- The slot-shaped connecting tube preventing free rotation.
- Tube and components clamped by the aid of only one screw.
- Easy adjustments by five degrees of freedom of the clamped devices (see drawing).
- Lack of cavities to avoid the deposit of dirt and undesired substances.
- Easy identification of the clamped device using different coloured caps on the base.

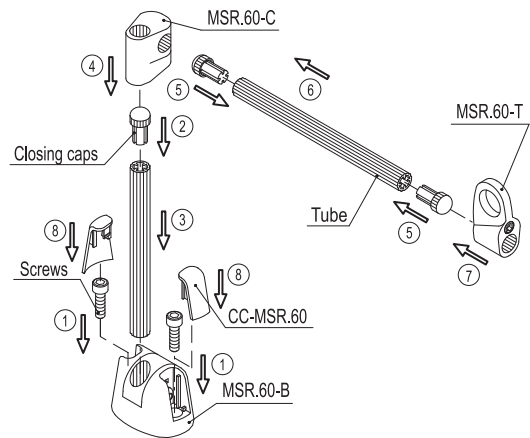


### Assembly instructions

- 1) Assemble the base by means of 2 M6 cylindrical head screws with hexagon socket (not supplied).
- 2) Fit one of the closing caps to the end of the connecting tube by tapping gently with a plastic mallet until firmly in place. Be careful not to assemble the cap to the end fitted to the base.
- 3) Insert the connecting tube in the shaped hole of the base and clamp it by screwing the set screw. Suggested tightening torque 5 Nm.
- 4) Insert the t-shaped clamp which allows the assembly of another connecting tube.
- 5) Fit the closing caps to the connecting tube.
- 6) Insert the connecting tube in the shaped hole of the t-shaped clamp.
- 7) Fit on the connecting tube the proper device clamp, chosen within the six available. After the positioning of the components, clamp them by screwing the set screws. Suggested tightening torque 3 Nm. We recommend no to exceed this value
- 8) Once the adjustment has been set, fit the screw covers on the base.



### Assembly instructions

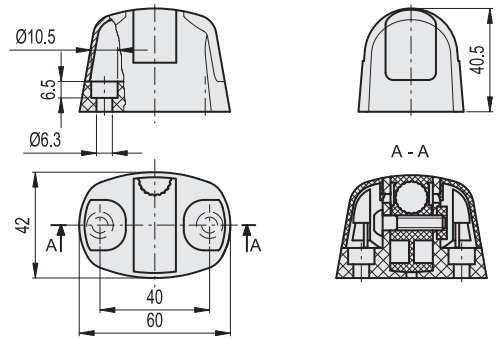




\* Complete with colour index, example: 440001-C9 MSR.60-B-C9  
 C9 C2 C3 C4 C5 C6  
 RAL9005 RAL2004 RAL7035 RAL1021 RAL5024 RAL3000

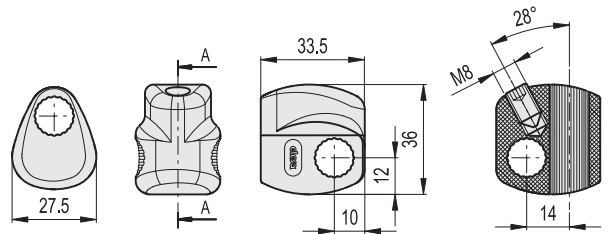
**MSR.60-B**

Elesa Standards		Pull out resistance		△△
Code	Description	[N]	g	
440001-*	MSR.60-B-*	300	50	



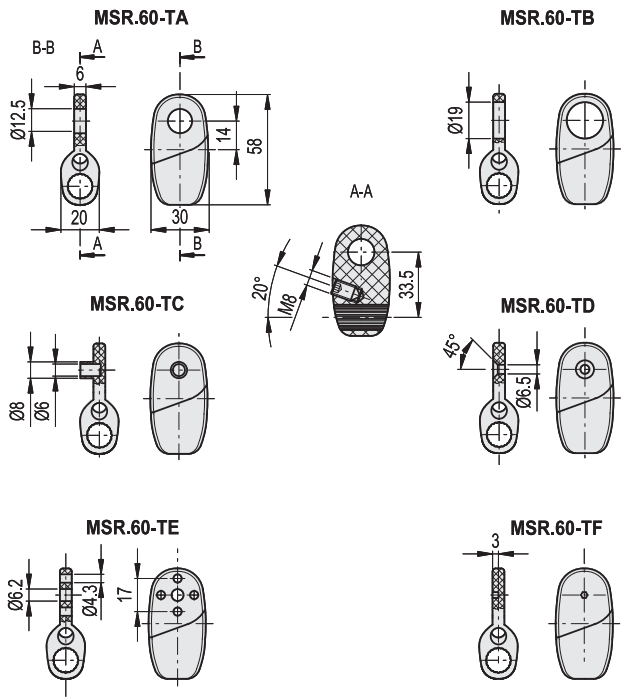
**MSR.60-C**

Elesa Standards		Pull out resistance		△△
Code	Description	[N]	g	
440021	MSR.60-C	300	19	



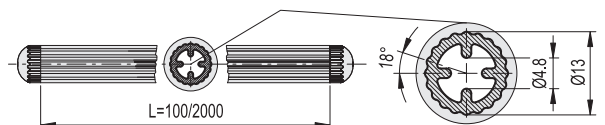
**MSR.60-TA - TB - TC - TD - TE - TF**

Elesa Standards		Pull out resistance		△△
Code	Description	[N]	g	
440031	MSR.60-TA	300	18	
440032	MSR.60-TB	300	17	
440033	MSR.60-TC	300	19	
440034	MSR.60-TD	300	18	
440035	MSR.60-TE	300	18	
440036	MSR.60-TF	300	20	



**MSR.60-T13**

Elesa Standards		△△
Code	Description	g
440050	MSR.60-T13-100	20
440055	MSR.60-T13-150	28
440060	MSR.60-T13-200	36
440065	MSR.60-T13-250	44
440070	MSR.60-T13-300	52
440200*	MSR.60-T13-2000*	320



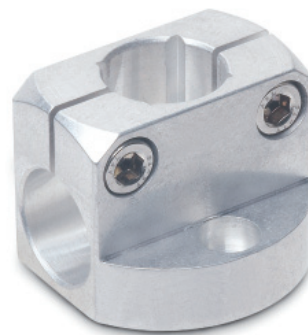
\* Supplied without closing caps.





# MSM-B

## Base for connecting clamps



### • Material

Aluminium.

### • Clamping screws

AISI 304 stainless steel with hexagon socket.

### • Standard executions

- **MSM-B-ANB**: anodised aluminium, black colour.
- **MSM-B-MT**: natural aluminium, matte finish.

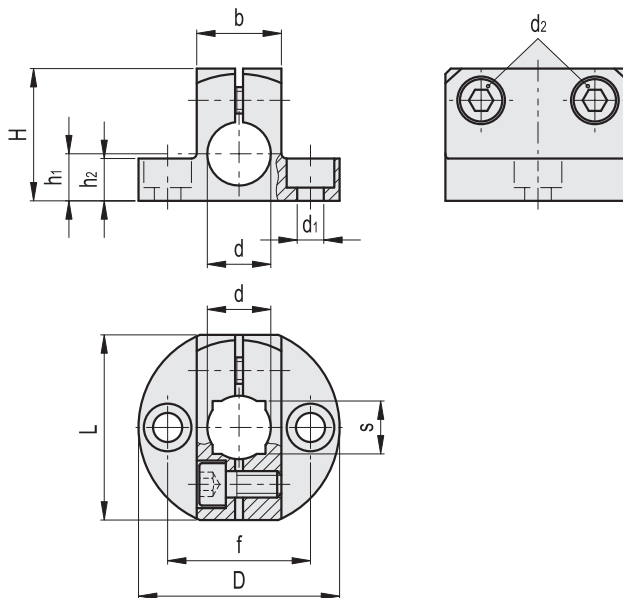
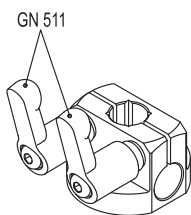
### Dimension table key

d = hole diameter for shaft tolerance h11.

d1= holes for clamping screws with threading as indicated in the table.

d2= clamping screws which can be replaced with GN 511 clamping kit (see page 599).

f = fixing holes centre distance: it allows matching and fixing to MSM-I connecting clamps (see page 595) and MSM-P flanged bolts (see page 598).



### MSM-B-ANB

Elesa Standards		Main dimensions											GN 511 clamping kit for d2	△△ g
Code	Description	d	L	D	H	b	d1	d2	h1	h2	f	s		
500001	MSM-B-8-ANB	8	29	31.5	20	14	M4	M4	7	7	22	-	GN 511-M4-14	23
500005	MSM-B-10-ANB	10	35	38	24	16	M5	M5	8	8	27	8	GN 511-M5-16	36
500009	MSM-B-12-ANB	12	35	38	25	16	M5	M5	8	8	27	10	GN 511-M5-16	33
500013	MSM-B-15-ANB	15	41	45	30	20	M6	M6	10	10	32	12	GN 511-M 6-20	57
500017	MSM-B-16-ANB	16	41	45	31	20	M6	M6	10	10	32	-	GN 511-M6-20	57
500021	MSM-B-20-ANB	20	44	50	35	25	M6	M6	12.5	12.5	36	16	GN 511-M6-25	80

### MSM-B-MT

500003	MSM-B-8-MT	8	29	31.5	20	14	M4	M4	7	7	22	-	GN 511-M4-14	23
500007	MSM-B-10-MT	10	35	38	24	16	M5	M5	8	8	27	8	GN 511-M5-16	36
500011	MSM-B-12-MT	12	35	38	25	16	M5	M5	8	8	27	10	GN 511-M5-16	33
500015	MSM-B-15-MT	15	41	45	30	20	M6	M6	10	10	32	12	GN 511-M6-20	57
500019	MSM-B-16-MT	16	41	45	31	20	M6	M6	10	10	32	-	GN 511-M6-20	57
500023	MSM-B-20-MT	20	44	50	35	25	M6	M6	12.5	12.5	36	16	GN 511-M6-25	76

# MSM-C

## Two-way connecting clamps



### Material

Aluminium.

### Clamping screws

AISI 304 stainless steel with hexagon socket.

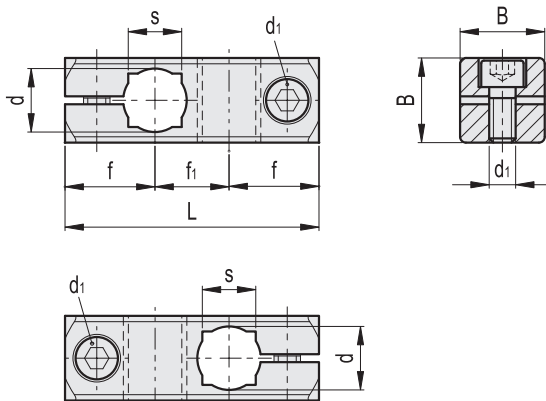
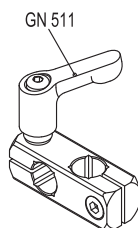
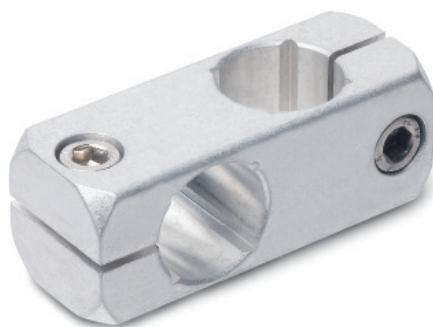
### Standard executions

- **MSM-C-ANB**: anodised aluminium, black colour.
- **MSM-C-MT**: natural aluminium, matte finish.

### Dimension table key

d = hole diameter for shaft tolerance h11.

d1= clamping screws which can be replaced with GN 511 clamping kit (see page 599).



### MSM-C-ANB

Elesa Standards		Main dimensions							GN 511 clamping kit for d1	△△ g
Code	Description	d	L	B	d1	f	f1	s		
500051	MSM-C-8-8-ANB	8	37	14	M4	13.5	10	-	GN 511-M4-14	16
500055	MSM-C-10-10-ANB	10	46	16	M5	17	12	8	GN 511-M5-16	25
500059	MSM-C-12-12-ANB	12	48	16	M5	17	14	10	GN 511-M5-16	24
500063	MSM-C-15-15-ANB	15	58	20	M6	20.5	17	12	GN 511-M6-20	44
500067	MSM-C-16-16-ANB	16	59	20	M6	20.5	18	-	GN 511-M6-20	43
500071	MSM-C-20-20-ANB	20	65	25	M6	21.5	22	16	GN 511-M6-25	67

### MSM-C-MT

500053	MSM-C-8-8-MT	8	37	14	M4	13.5	10	-	GN 511-M4-14	16
500057	MSM-C-10-10-MT	10	46	16	M5	17	12	8	GN 511-M5-16	25
500061	MSM-C-12-12-MT	12	48	16	M5	17	14	10	GN 511-M5-16	23
500065	MSM-C-15-15-MT	15	58	20	M6	20.5	17	12	GN 511-M6-20	44
500069	MSM-C-16-16-MT	16	59	20	M6	20.5	18	-	GN 511-M6-20	43
500073	MSM-C-20-20-MT	20	65	25	M6	21.5	22	16	GN 511-M6-25	67





# MSM-F

## Clamps for fixing sensor holders



### • Material

Aluminium.

### • Clamping screws

AISI 304 stainless steel with hexagon socket.

### • Standard executions

- **MSM-F-ANB**: anodised aluminium, black colour.
- **MSM-F-MT**: natural aluminium, matte finish.

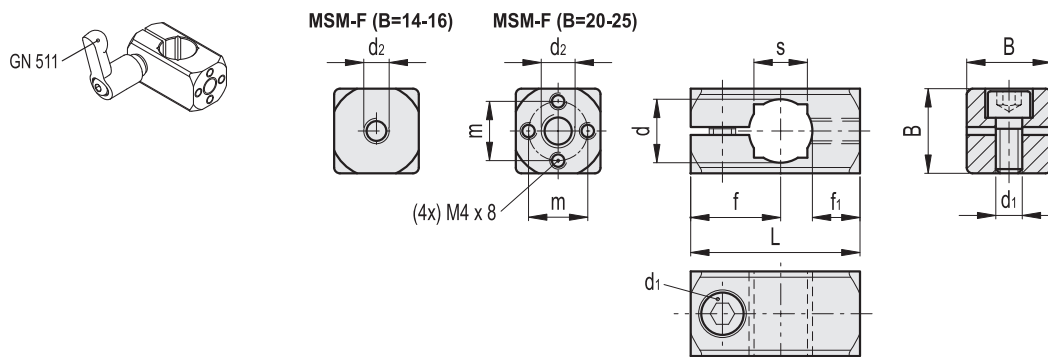
### Features and applications

MSM-F connecting clamps have been designed in order to be used with MSM-LA (see page 596) and MSM-LB (see page 597) sensor holders.

### Dimension table key

d = hole diameter for shaft tolerance h11.

d1= clamping screws which can be replaced with GN 511 clamping kit (see page 599).



### MSM-F-ANB

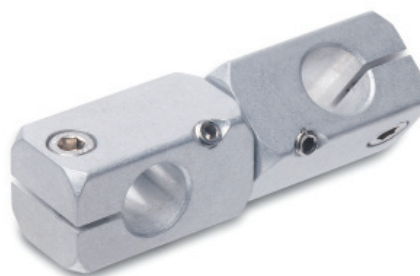
Elesa Standards		Main dimensions									GN 511 clamping kit for d1	$\Delta$
Code	Description	d	d2	L	B	d1	f	f1	m	s		g
500101	MSM-F-8-M5-ANB	8	M5	25	14	M4	13.5	7.5	-	-	GN 511-M4-14	11
500105	MSM-F-10-M5-ANB	10	M5	30	16	M5	17	8	-	8	GN 511-M5-16	16
500109	MSM-F-10-M6-ANB	10	M6	30	16	M5	17	8	-	8	GN 511-M5-16	20
500113	MSM-F-10-M8-ANB	10	M8	30	16	M5	17	8	-	8	GN 511-M5-16	16
500117	MSM-F-12-M5-ANB	12	M5	32	16	M5	17	9	-	10	GN 511-M5-16	16
500121	MSM-F-12-M6-ANB	12	M6	32	16	M5	17	9	-	10	GN 511-M5-16	37
500125	MSM-F-12-M8-ANB	12	M8	32	16	M5	17	9	-	10	GN 511-M5-16	17
500129	MSM-F-15-M6-ANB	15	M6	40	20	M6	20.5	12	14	12	GN 511-M6-20	20
500133	MSM-F-15-M8-ANB	15	M8	40	20	M6	20.5	12	14	12	GN 511-M6-20	31
500137	MSM-F-16-M6-ANB	16	M6	40	20	M6	20.5	11.5	14	-	GN 511-M6-20	31
500141	MSM-F-16-M8-ANB	16	M8	40	20	M6	20.5	11.5	14	-	GN 511-M6-20	30
500145	MSM-F-20-M8-ANB	20	M8	45	25	M6	21.5	12	17	16	GN 511-M6-25	51
500149	MSM-F-20-M10-ANB	20	M10	45	25	M6	21.5	12	17	16	GN 511-M6-25	50

### MSM-F-MT

500103	MSM-F-8-M5-MT	8	M5	25	14	M4	13.5	7.5	-	-	GN 511-M4-14	11
500107	MSM-F-10-M5-MT	10	M5	30	16	M5	17	8	-	8	GN 511-M5-16	16
500111	MSM-F-10-M6-MT	10	M6	30	16	M5	17	8	-	8	GN 511-M5-16	20
500115	MSM-F-10-M8-MT	10	M8	30	16	M5	17	8	-	8	GN 511-M5-16	16
500119	MSM-F-12-M5-MT	12	M5	32	16	M5	17	9	-	10	GN 511-M5-16	16
500123	MSM-F-12-M6-MT	12	M6	32	16	M5	17	9	-	10	GN 511-M5-16	16
500127	MSM-F-12-M8-MT	12	M8	32	16	M5	17	9	-	10	GN 511-M5-16	15
500131	MSM-F-15-M6-MT	15	M6	40	20	M6	20.5	12	14	12	GN 511-M6-20	20
500135	MSM-F-15-M8-MT	15	M8	40	20	M6	20.5	12	14	12	GN 511-M6-20	31
500139	MSM-F-16-M6-MT	16	M6	40	20	M6	20.5	11.5	14	-	GN 511-M6-20	31
500143	MSM-F-16-M8-MT	16	M8	40	20	M6	20.5	11.5	14	-	GN 511-M6-20	30
500147	MSM-F-20-M8-MT	20	M8	45	25	M6	21.5	12	17	16	GN 511-M6-25	51
500151	MSM-F-20-M10-MT	20	M10	45	25	M6	21.5	12	17	16	GN 511-M6-25	50

# MSM-G

## Twistable two-way connecting clamps



- Material**

Aluminium.

- Clamping and grub screws**

AISI 304 stainless steel with hexagon socket.

- Standard executions**

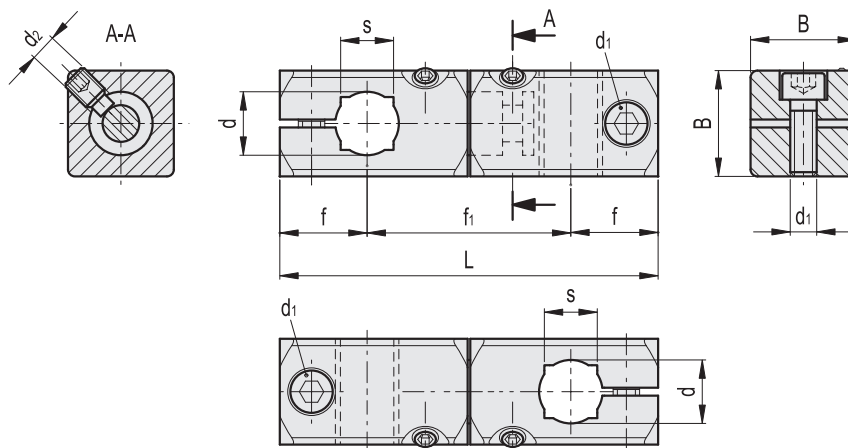
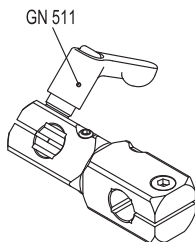
- **MSM-G-ANB**: anodised aluminium, black colour.

- **MSM-G-MT**: natural aluminium, matte finish.

**Dimension table key**

d = hole diameter for shaft tolerance h11.

d1= clamping screws which can be replaced with GN 511 clamping kit (see page 599).



### MSM-G-ANB

Elesa Standards		Main dimensions								GN 511 clamping kit for d1	ΔΔ g
Code	Description	d	L	B	d1	d2	f	f1	s		
500201	MSM-G-8-8-ANB	8	52.5	16	M4	M4	13	26.5	-	GN 511-M4-16	34
500205	MSM-G-10-10-ANB	10	63.5	20	M5	M5	15.5	32.5	8	GN 511-M5-20	65
500209	MSM-G-12-12-ANB	12	71.5	20	M5	M5	16.5	38.5	10	GN 511-M5-20	73
500213	MSM-G-15-15-ANB	15	87.5	25	M6	M6	20	47.5	12	GN 511-M6-25	143
500217	MSM-G-16-16-ANB	16	90.5	25	M6	M6	20	50.5	-	GN 511-M6-25	139

### MSM-G-MT

500203	MSM-G-8-8-MT	8	52.5	16	M4	M4	13	26.5	-	GN 511-M4-16	34
500207	MSM-G-10-10-MT	10	63.5	20	M5	M5	15.5	32.5	8	GN 511-M5-20	65
500211	MSM-G-12-12-MT	12	71.5	20	M5	M5	16.5	38.5	10	GN 511-M5-20	73
500215	MSM-G-15-15-MT	15	87.5	25	M6	M6	20	47.5	12	GN 511-M6-25	143
500219	MSM-G-16-16-MT	16	90.5	25	M6	M6	20	50.5	-	GN 511-M5-25	139



# MSM-H

## Connecting clamps



### Material

Aluminium.

### Clamping and grub screws

AISI 304 stainless steel with hexagon socket.

### Standard executions

With hole tolerance H9:

- **MSM-H-A-ANB**: anodised aluminium, black colour.
- **MSM-H-A-MT**: natural aluminium, matte finish.

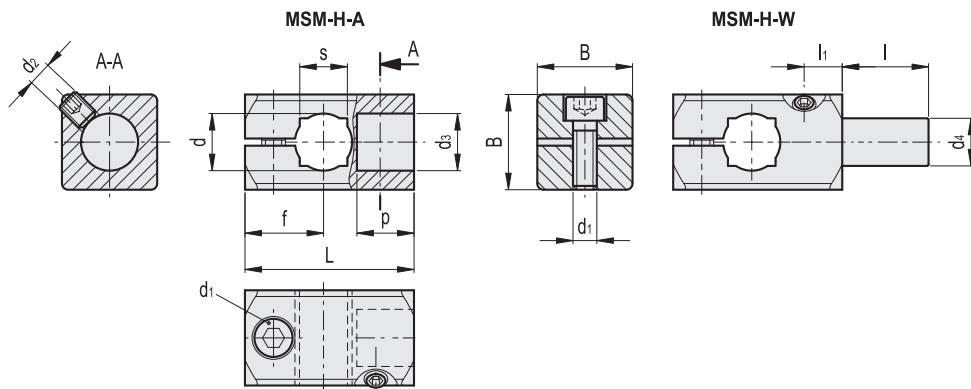
With zinc-plated steel bolt tolerance h11:

- **MSM-H-W-ANB**: anodised aluminium, black colour.
- **MSM-H-W-MT**: natural aluminium, matte finish.

### Dimension table key

d = hole diameter for shaft tolerance h11.

d1= clamping screws which can be replaced with GN 511 clamping kit (see page 599).



### MSM-H-A-ANB

Elesa Standards		Main dimensions											GN 511 clamping kit for d1	$\Delta\Delta$	
Code	Description	d	L	B	d1	d2	d3 H9	p	d4 h11	l	f	l1	s		g
500251	MSM-H-8-8-A-ANB	8	26	16	M4	M4	8	8	-	-	13	5.5	-	GN 511-M4-16	20
500259	MSM-H-10-10-A-ANB	10	31.5	20	M5	M5	10	10	-	-	15.5	7	8	GN 511-M5-20	150
500267	MSM-H-12-12-A-ANB	12	35.5	20	M5	M5	12	12	-	-	16.5	8	10	GN 511-M5-20	28
500275	MSM-H-15-15-A-ANB	15	43.5	25	M6	M6	15	15	-	-	20	10	12	GN 511-M6-25	54
500283	MSM-H-16-16-A-ANB	16	45	25	M6	M6	16	16	-	-	20	11	-	GN 511-M6-25	54

### MSM-H-A-MT

500253	MSM-H-8-8-A-MT	8	26	16	M4	M4	8	8	-	-	13	5.5	-	GN 511-M4-16	20
500261	MSM-H-10-10-A-MT	10	31.5	20	M5	M5	10	10	-	-	15.5	7	8	GN 511-M5-20	150
500269	MSM-H-12-12-A-MT	12	35.5	20	M5	M5	12	12	-	-	16.5	8	10	GN 511-M5-20	28
500277	MSM-H-15-15-A-MT	15	43.5	25	M6	M6	15	15	-	-	20	10	12	GN 511-M6-25	54
500285	MSM-H-16-16-A-MT	16	45	25	M6	M6	16	16	-	-	20	11	-	GN 511-M6-25	54

### MSM-H-W-ANB

500255	MSM-H-8-8-W-ANB	8	26	16	M4	M4	-	-	8	16	13	5.5	-	GN 511-M4-16	20
500263	MSM-H-10-10-W-ANB	10	31.5	20	M5	M5	-	-	10	17	15.5	7	8	GN 511-M5-20	150
500271	MSM-H-12-12-W-ANB	12	35.5	20	M5	M5	-	-	12	19	16.5	8	10	GN 511-M5-20	28
500279	MSM-H-15-15-W-ANB	15	43.5	25	M6	M6	-	-	15	21	20	10	12	GN 511-M6-25	54
500287	MSM-H-16-16-W-ANB	16	45	25	M6	M6	-	-	16	24	20	11	-	GN 511-M6-25	54

### MSM-H-W-MT

500257	MSM-H-8-8-W-MT	8	26	16	M4	M4	-	-	8	16	13	5.5	-	GN 511-M4-16	20
500265	MSM-H-10-10-W-MT	10	31.5	20	M5	M5	-	-	10	17	15.5	7	8	GN 511-M5-20	150
500273	MSM-H-12-12-W-MT	12	35.5	20	M5	M5	-	-	12	19	16.5	8	10	GN 511-M5-20	28
500281	MSM-H-15-15-W-MT	15	43.5	25	M6	M6	-	-	15	21	20	10	12	GN 511-M6-25	54
500289	MSM-H-16-16-W-MT	16	45	25	M6	M6	-	-	16	24	20	11	-	GN 511-M6-25	54

# MSM-I

## Connecting clamps



### Material

Aluminium.

### Standard executions

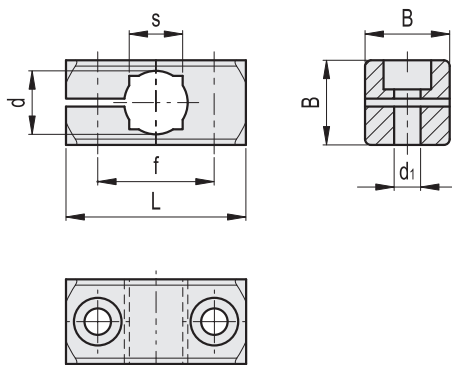
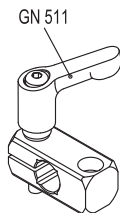
- **MSM-I-ANB**: anodised aluminium, black colour.
- **MSM-I-MT**: natural aluminium, matte finish.

### Dimension table key

d = hole diameter for shaft tolerance h11.

d1= holes for clamping screws with threading as indicated in the table or for GN 511 (see page 599) clamping kit.

f = fixing holes centre distance: it allows matching and fixing to MSM-B (see page 590) connecting clamps and MSM-P (see page 598) flanged bolts.



### MSM-I-ANB

Elesa Standards		Main dimensions						GN 511 clamping kit for d1	$\Delta$
Code	Description	d	L	B	d1	f	s		g
500301	MSM-I-8-ANB	8	31.5	14	M4	22	-	GN 511-M4-20	11
500305	MSM-I-10-ANB	10	38	16	M5	27	8	GN 511-M5-25	18
500309	MSM-I-12-ANB	12	38	16	M5	27	10	GN 511-M5-25	20
500313	MSM-I-15-ANB	15	45	20	M6	32	12	GN 511-M6-25	31
500317	MSM-I-16-ANB	16	45	20	M6	32	-	GN 511-M6-25	29
500321	MSM-I-20-ANB	20	50	25	M6	36	16	GN 511-M6-32	52

### MSM-I-MT

500303	MSM-I-8-MT	8	31.5	14	M4	22	-	GN 511-M4-20	11
500307	MSM-I-10-MT	10	38	16	M5	27	8	GN 511-M5-25	18
500311	MSM-I-12-MT	12	38	16	M5	27	10	GN 511-M5-25	37
500315	MSM-I-15-MT	15	45	20	M6	32	12	GN 511-M6-25	40
500319	MSM-I-16-MT	16	45	20	M6	32	-	GN 511-M6-25	29
500323	MSM-I-20-MT	20	50	25	M6	36	16	GN 511-M6-32	52



## Sensor holder

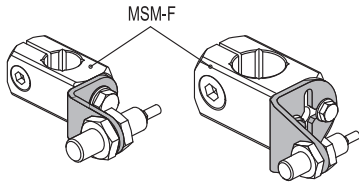
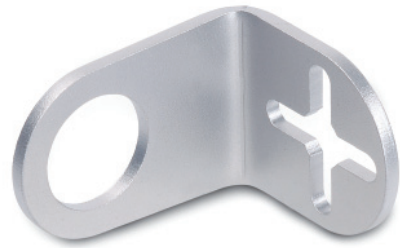


**• Material**

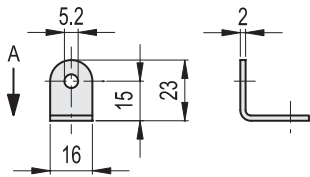
Sandblasted AISI 304 stainless steel, matte finish.

**Features and applications**

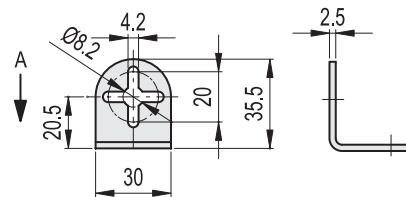
In MSM-LA-30 sensor holders, the cross-shaped hole provides a more precise regulation for fixing to MSM-F connecting clamps (see page 592) and it also allows the use of two clamping screws.



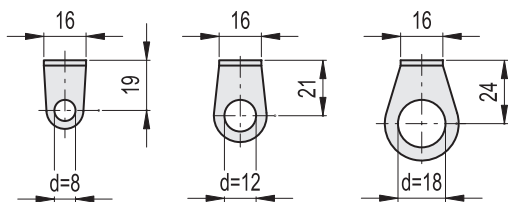
MSM-LA-16



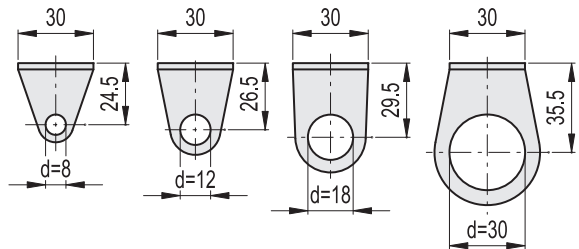
MSM-LA-30



View on A



View on A



Elesa Standards		Main dimensions		Δ
Code	Description	d		g
500351	MSM-LA-16-8	8		9
500355	MSM-LA-16-12	12		10
500359	MSM-LA-16-18	18		13
500353	MSM-LA-30-8	8		24
500357	MSM-LA-30-12	12		26
500361	MSM-LA-30-18	18		30
500363	MSM-LA-30-30	30		36

## Connecting plates



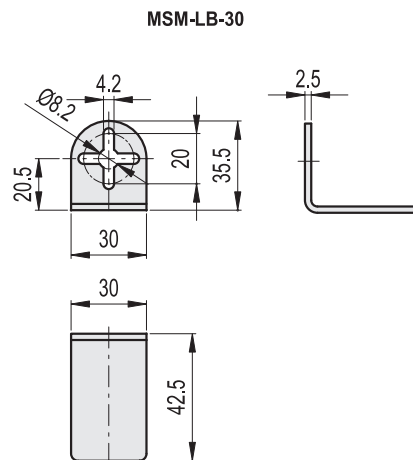
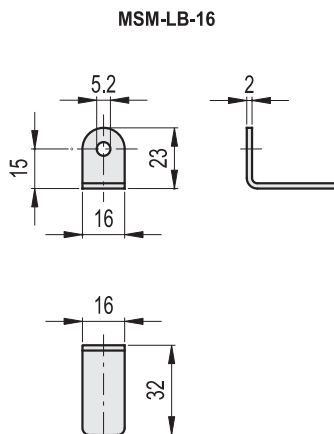
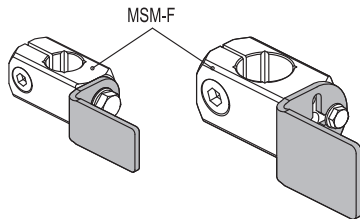
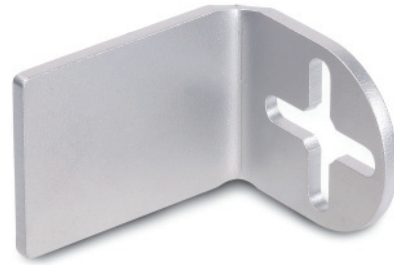
**Material**

Sandblasted AISI 304 stainless steel, matte finish.

**Features and applications**

In MSM-LB-30 connecting plates, the cross-shaped hole provides a more precise regulation for fixing to MSM-F connecting clamps (see page 592) and it also allows the use of two clamping screws.

MSM-LB connecting plates are designed as universal elements which allow to customize the hole fixing for assembling with specific profile devices.



Elesa Standards		ΔΔ
Code	Description	
500381	MSM-LB-16	9
500383	MSM-LB-30	26



# MSM-P

## Flanged bolts

RoHS

### • Material

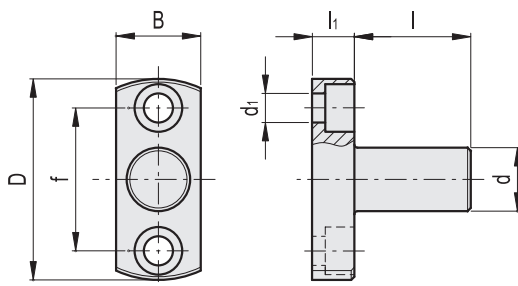
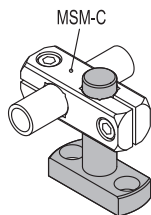
Zinc-plated steel.

### Features and applications

MSM-P flanged bolts are used for matching with connecting clamps, with the function of levelling element or holding flange.

### Dimension table key

d1= holes for clamping screws with threading as indicated in the table.



Elesa Standards		Main dimensions							$\Delta$
Code	Description	d	l	D	B	l <sub>1</sub>	d <sub>1</sub>	f	g
500401	MSM-P-8-18	8	18	31.5	14	6	M4	22	23
500403	MSM-P-8-32	8	32	31.5	14	6	M4	22	40
500405	MSM-P-10-21	10	21	38	16	8	M5	27	43
500407	MSM-P-10-37	10	37	38	16	8	M5	27	52
500409	MSM-P-12-22	12	22	38	16	8	M5	27	49
500411	MSM-P-12-39	12	39	38	16	8	M5	27	64
500413	MSM-P-15-27.5	15	27.5	45	20	10	M6	32	94
500415	MSM-P-15-47.5	15	47.5	45	20	10	M6	32	122
500417	MSM-P-16-28	16	28	45	20	10	M6	32	100
500419	MSM-P-16-49	16	49	45	20	10	M6	32	133
500421	MSM-P-20-35	20	35	50	25	10	M6	36	166
500423	MSM-P-20-60	20	60	50	25	10	M6	36	228

# GN 511

## Clamping kit



- **Lever body**

Zinc alloy die-cast, epoxy resin coating.

- **Colour**

RAL 9006 silver.

- **Standard execution**

AISI 303 stainless steel clamping element with retaining screw.

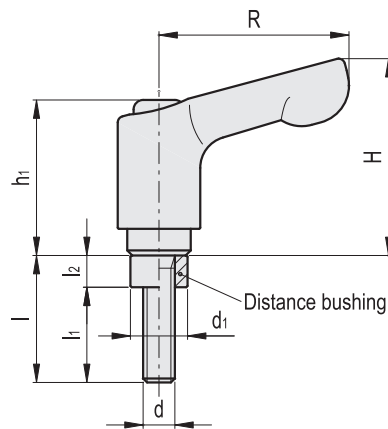
AISI 301 stainless steel return spring.

AISI 303 stainless steel distance bushing.

**Features and applications**

GN 511 clamping kit can be used as an alternative to the clamping screws supplied with the different kinds of connecting clamps.

The correspondent clamping kits are indicated in the tables of the different clamps.



Elesa-Gantergriff		Main dimensions									△△
Code	Description	d1	d2	l1	l2	l3	l4	h1	h2	g	
GN.23091	GN 511-M4-14	M4	7.5	30	14	9.5	4.5	24.5	30.5	37	
GN.23092	GN 511-M4-16	M4	7.5	30	16	11.5	4.5	24.5	30.5	38	
GN.23093	GN 511-M4-20	M4	7.5	30	20	15.5	4.5	24.5	30.5	40	
GN.23094	GN 511-M5-16	M5	9	30	16	10	6	24.5	30.5	39	
GN.23095	GN 511-M5-20	M5	9	30	20	14	6	24.5	30.5	40	
GN.23096	GN 511-M5-25	M5	9	30	25	19	6	24.5	30.5	40	
GN.23097	GN 511-M6-20	M6	10.5	45	20	13.5	6.5	24.5	35	40	
GN.23098	GN 511-M6-25	M6	10.5	45	25	18.5	6.5	24.5	35	50	
GN.23099	GN 511-M6-32	M6	10.5	45	32	25.5	6.5	24.5	35	51	



# MSM-Q

## Square connecting tubes



### • Material

Anodised aluminium square tube, natural colour, matte finish.

### • Standard executions

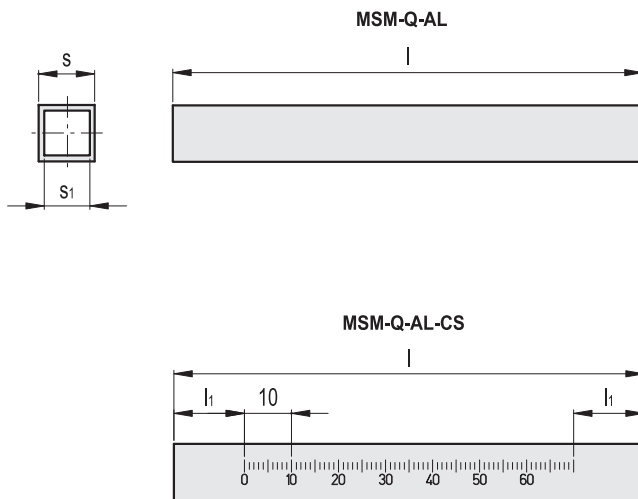
- **MSM-Q-AL**: without graduations.
- **MSM-Q-AL-CS**: with laser engraved precision graduations (mm).

### Special executions on request

Different graduations.



- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15



### MSM-Q-AL

### MSM-Q-AL-CS

Elesa Standards				Main dimensions				$\Delta$
Code	Description	Code	Description	s	l	s1	l1	g
500451	MSM-Q-S10-100-AL	500453	MSM-Q-S10-100-AL-CS	10	100	7	15	11
500455	MSM-Q-S10-150-AL	500457	MSM-Q-S10-150-AL-CS	10	150	7	15	19
500459	MSM-Q-S10-200-AL	500461	MSM-Q-S10-200-AL-CS	10	200	7	15	25
500463	MSM-Q-S10-250-AL	500465	MSM-Q-S10-250-AL-CS	10	250	7	15	32
500467	MSM-Q-S10-300-AL	500469	MSM-Q-S10-300-AL-CS	10	300	7	15	38
500471	MSM-Q-S12-100-AL	500473	MSM-Q-S12-100-AL-CS	12	100	9	15	15
500475	MSM-Q-S12-150-AL	500477	MSM-Q-S12-150-AL-CS	12	150	9	15	23
500479	MSM-Q-S12-200-AL	500481	MSM-Q-S12-200-AL-CS	12	200	9	15	31
500483	MSM-Q-S12-250-AL	500485	MSM-Q-S12-250-AL-CS	12	250	9	15	39
500487	MSM-Q-S12-300-AL	500489	MSM-Q-S12-300-AL-CS	12	300	9	15	46
500491	MSM-Q-S16-100-AL	500493	MSM-Q-S16-100-AL-CS	16	100	13	20	21
500495	MSM-Q-S16-150-AL	500497	MSM-Q-S16-150-AL-CS	16	150	13	20	32
500499	MSM-Q-S16-200-AL	500501	MSM-Q-S16-200-AL-CS	16	200	13	20	43
500503	MSM-Q-S16-250-AL	500505	MSM-Q-S16-250-AL-CS	16	250	13	20	53
500507	MSM-Q-S16-300-AL	500509	MSM-Q-S16-300-AL-CS	16	300	13	20	64

Connecting clamps

## Connecting tubes



### Material

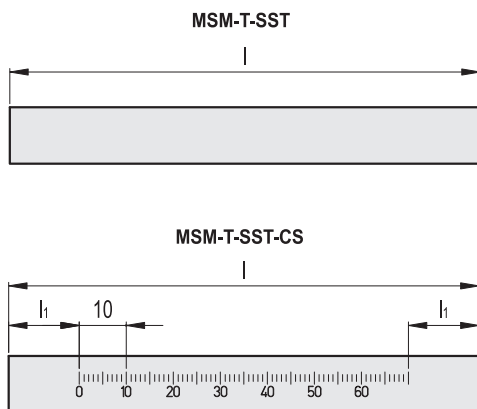
AISI 304 stainless steel.  
Bar for  $d = 8$  and  $10$ .  
Tube for  $d = 12, 16$  and  $20$ .

### Standard executions

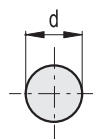
- **MSM-T-SST**: without graduations.
- **MSM-T-SST-CS**: with laser engraved precision graduations (mm).

### Special executions on request

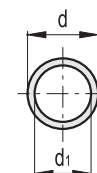
Different graduations.



MSM-T-D8  
MSM-T-D10



MSM-T-D12  
MSM-T-D16  
MSM-T-D20



### MSM-T-SST

### MSM-T-SST-CS



Elesa Standards				Main dimensions				△
Code	Description	Code	Description	d	l	d1	li	g
500551	MSM-T-D8-100-SST	500553	MSM-T-D8-100-SST-CS	8	100	-	15	39
500555	MSM-T-D8-150-SST	500557	MSM-T-D8-150-SST-CS	8	150	-	15	59
500559	MSM-T-D8-200-SST	500561	MSM-T-D8-200-SST-CS	8	200	-	15	78
500563	MSM-T-D8-250-SST	500565	MSM-T-D8-250-SST-CS	8	250	-	15	98
500567	MSM-T-D8-300-SST	500569	MSM-T-D8-300-SST-CS	8	300	-	15	118
500571	MSM-T-D10-100-SST	500573	MSM-T-D10-100-SST-CS	10	100	-	15	62
500575	MSM-T-D10-150-SST	500577	MSM-T-D10-150-SST-CS	10	150	-	15	100
500579	MSM-T-D10-200-SST	500581	MSM-T-D10-200-SST-CS	10	200	-	15	123
500583	MSM-T-D10-250-SST	500585	MSM-T-D10-250-SST-CS	10	250	-	15	154
500587	MSM-T-D10-300-SST	500589	MSM-T-D10-300-SST-CS	10	300	-	15	185
500591	MSM-T-D12-100-SST	500593	MSM-T-D12-100-SST-CS	12	100	9	15	37
500595	MSM-T-D12-150-SST	500597	MSM-T-D12-150-SST-CS	12	150	9	15	56
500599	MSM-T-D12-200-SST	500601	MSM-T-D12-200-SST-CS	12	200	9	15	74
500603	MSM-T-D12-250-SST	500605	MSM-T-D12-250-SST-CS	12	250	9	15	93
500607	MSM-T-D12-300-SST	500609	MSM-T-D12-300-SST-CS	12	300	9	15	112
500611	MSM-T-D16-100-SST	500613	MSM-T-D16-100-SST-CS	16	100	13	20	54
500615	MSM-T-D16-150-SST	500617	MSM-T-D16-150-SST-CS	16	150	13	20	82
500619	MSM-T-D16-200-SST	500621	MSM-T-D16-200-SST-CS	16	200	13	20	109
500623	MSM-T-D16-250-SST	500625	MSM-T-D16-250-SST-CS	16	250	13	20	137
500627	MSM-T-D16-300-SST	500629	MSM-T-D16-300-SST-CS	16	300	13	20	164
500631	MSM-T-D20-100-SST	500633	MSM-T-D20-100-SST-CS	20	100	16	25	85
500635	MSM-T-D20-150-SST	500637	MSM-T-D20-150-SST-CS	20	150	16	25	127
500639	MSM-T-D20-200-SST	500641	MSM-T-D20-200-SST-CS	20	200	16	25	170
500643	MSM-T-D20-250-SST	500645	MSM-T-D20-250-SST-CS	20	250	16	25	213
500647	MSM-T-D20-300-SST	500649	MSM-T-D20-300-SST-CS	20	300	16	25	256



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