Spannelemente

Clamping Equipment

Kraftspanner Verschiebbar

Combined Sliding Clamp

1

2

3

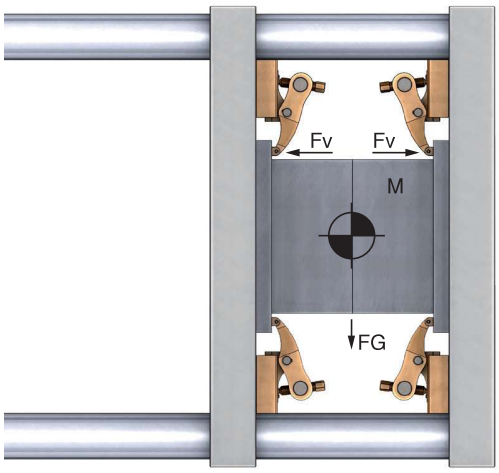
4

1

2

3

4

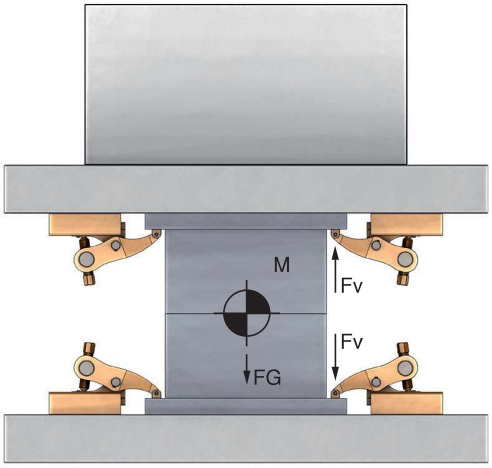


Anwendungsbeispiel für Spritzgusswerkzeuge

Power Clamp For Injection Moulding

Rechenformel / Formula Calculator

$\frac{M \times FG}{1000} = kN$	$\frac{2500 \times 9.81\ kg}{1000} = 24.52\ kN$
$\frac{kN}{\mu}$ = Ergebnis / Result	$\frac{24.52}{0.14} = 175.14\ kN$
$\frac{\text{Ergebnis}}{Fv}$ = Spann-Anzahl Number of Clamp	$\frac{175.14\ kN}{25\ kN}$ = 7 Spannen / Clamp 8 Stück verwenden 8 pcs Use



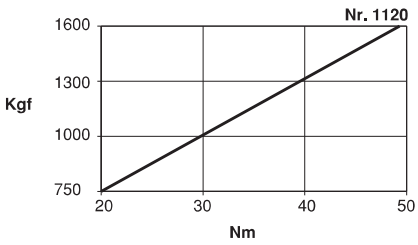
Anwendungsbeispiel für Presswerkzeuge

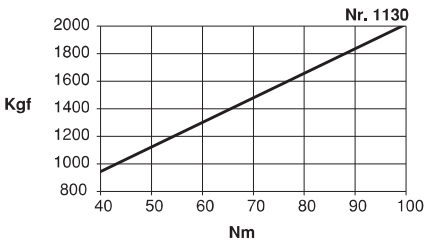
Power Clamp For Press Moulding

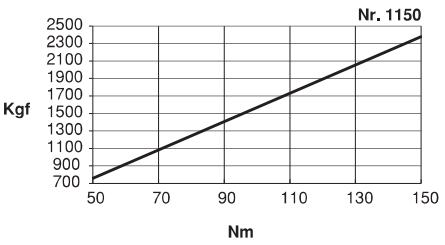
Rechenformel / Formula Calculator

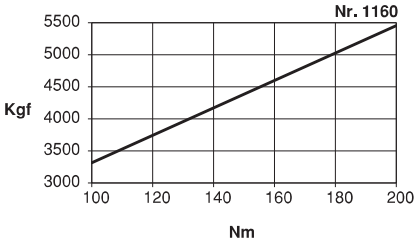
$\frac{M \times FG}{1000} = kN$	$\frac{5000 \times 9.81\ kg}{1000} = 49.050\ kN$
$\frac{kN}{\mu}$ = Ergebnis / Result (Oberes Werkzeug %60) (Unteres Werkzeug % 40)	$\frac{49.05}{0.14} = 350.35\ kN$ (%60 Oberes Werkzeug= 210.21) (% 40 Unteres Werkzeug= 140.14)
$\frac{\text{Ergebnis}_{\text{Oberes Werkzeug}}}{Fv}$ = Spann-Anzahl Number of Clamp	$\frac{210.21\ kN}{25\ kN}$ = 8 Spann-Anzahl 8 Number of Clamp
$\frac{\text{Ergebnis}_{\text{Unteres Werkzeug}}}{Fv}$ = Spann-Anzahl Number of Clamp	$\frac{140.14\ kN}{25\ kN}$ = 5.6 Spannen / Clamp 6 Stück verwenden 6 pcs Use

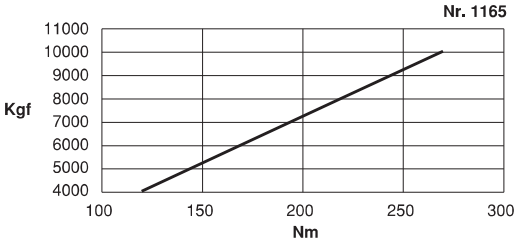
Kraftdiagramm / Force Diagram











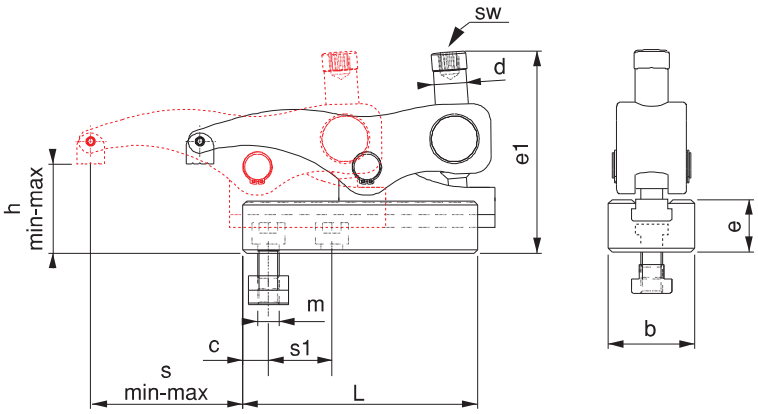
Referenz-Nr. Order No.	a	m	h min	h max	s	s1	e1	d	sw	L	e	b	c	Spannkraft Clamping Force Kgf	Nm	(g)
1120-014 T	14	M12	0	50	12-66	25	100	M14	8	104	35.5	38	13	1600	50	1740
1120-016 T	16	M12	0	50	12-66	25	100	M14	8	104	35.5	38	13	1600	50	1755
1120-018 T	18	M12	0	50	12-66	25	100	M14	8	104	35.5	38	13	1600	50	1785
1120-014 LT	14	M12	0	50	12-81	25	100	M14	8	130	35.5	38	13	1600	50	1980
1120-016 LT	16	M12	0	50	12-81	25	100	M14	8	130	35.5	38	13	1600	50	1995
1120-018 LT	18	M12	0	50	12-81	25	100	M14	8	130	35.5	38	13	1600	50	2000

1120-(T)
- (a) 14-18 in T-Nut wird Inbusschraube M12 DIN 508 mit T-Nutmutter werwendet.
- Spannhöhe 0-50 mm
- Spannweite 54 mm, Spannkraft 1600 kg.

1120-(LT)
- (a) 14-18 in T-Nut wird Inbusschraube M12 DIN 508 mit T-Nutmutter werwendet.
- Spannhöhe 0-50 mm
- Spannweite 69 mm, Spannkraft 1600 kg.

1120-(T)
- (a) 14-18 is used in T-Slot and M12 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 0-50mm
- Back and forth movement distance is 54mm. Clamping force is 1600 kgf.

1120-(LT)
- (a) 14-18 is used in T-Slot and M12 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 0-50mm
- Back and forth movement distance is 69mm. Clamping force is 1600 kgf.



1120-... T

1120-... LT

ANWENDUNG;
1- Zwischenelement an Werkstück befestigen
2- Grundkörper auf Zwischenelement verschieben
3- Werkstück mit Inbusschraube befestigen
4- Werkstück ist zum Bearbeiten bereit

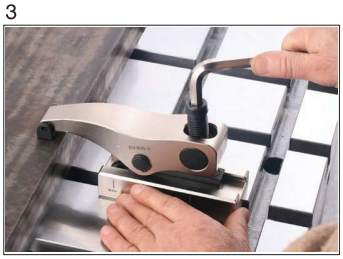
APPLICATION;
1- Slide cradle is brought to suitable form with the work piece and then it is fixed
2- Upper body is driven to the slide and it is brought to desired position
3- Work piece is fixed with the imbus bolt of the clamp
4- Then the work piece becomes ready to be machined.

Verwendung
Injektionsmaschinen, Pressen, Fräsmaschinen, Bohrzentren, verschiedene Industriemaschinen

Area of Use
Injection Machines, Presses, Milling Machines, Drilling Machines and various Industrial Machines

1


2


3


4

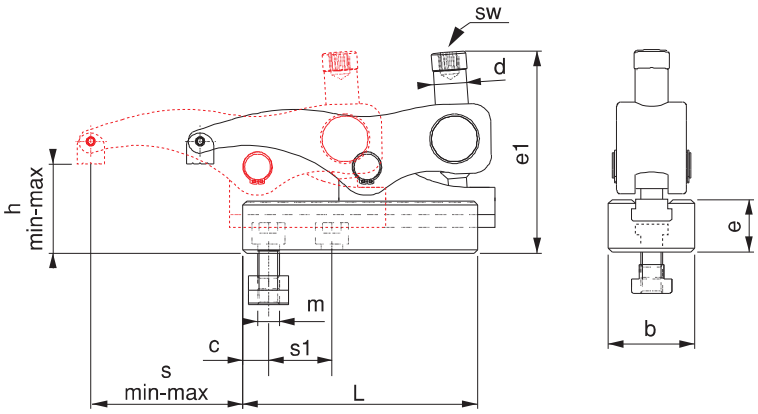

Referenz-Nr. Order No.	a	m	h min	h max	s	s1	e1	d	sw	L	e	b	c	Spannkraft Clamping Force Kgf	Nm	(g)
1130-014 T	14	M12	0	60	15-83	30	113	M18	10	130	39	48	17,5	2000	100	3040
1130-016 T	16	M12	0	60	15-83	30	113	M18	10	130	39	48	17,5	2000	100	3055
1130-018 T	18	M12	0	60	15-83	30	113	M18	10	130	39	48	17,5	2000	100	3085
1130-020 T	20	M12	0	60	15-83	30	113	M18	10	130	39	48	17,5	2000	100	3135
1130-022 T	22	M12	0	60	15-83	30	113	M18	10	130	39	48	17,5	2000	100	3150
1130-014 LT	14	M12	0	60	15-107	30	113	M18	10	170	39	48	17,5	2000	100	3820
1130-016 LT	16	M12	0	60	15-107	30	113	M18	10	170	39	48	17,5	2000	100	3835
1130-018 LT	18	M12	0	60	15-107	30	113	M18	10	170	39	48	17,5	2000	100	3865
1130-020 LT	20	M12	0	60	15-107	30	113	M18	10	170	39	48	17,5	2000	100	3915
1130-022 LT	22	M12	0	60	15-107	30	113	M18	10	170	39	48	17,5	2000	100	3930

1130-(T)
- (a) 14-22 in T-Nut wird Inbusschraube M12 DIN 508 mit T-Nutmutter werwendet.
- Spannhöhe 0-60 mm
- Spannweite 68 mm, Spannkraft 2000 kg.

1130-(LT)
- (a) 14-22 in T-Nut wird Inbusschraube M12 DIN 508 mit T-Nutmutter werwendet.
- Spannhöhe 0-60 mm
- Spannweite 92 mm, Spannkraft 2000 kg.

1130-(T)
- (a) 14-22 is used in T-Slot and M12 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 0-60mm.
- Back and forth movement distance is 68mm. Clamping force is 2000 kgf.

1130-(LT)
- (a) 14-22 is used in T-Slot and M12 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 0-60mm.
- Back and forth movement distance is 92mm. Clamping force is 2000 kgf.



1130-... T

1130-... LT

ANWENDUNG;
1- Zwischenelement an Werkstück befestigen
2- Grundkörper auf Zwischenelement verschieben
3- Werkstück mit Inbusschraube befestigen
4- Werkstück ist zum Bearbeiten bereit

APPLICATION;
1- Slide cradle is brought to suitable form with the work piece and then it is fixed
2- Upper body is driven to the slide and it is brought to desired position
3- Work piece is fixed with the imbus bolt of the clamp
4- Then the work piece becomes ready to be machined.

Verwendung
Injektionsmaschinen, Pressen, Fräsmaschinen, Bohrzentren, verschiedene Industriemaschinen

Area of Use
Injection Machines, Presses, Milling Machines, Drilling Machines and various Industrial Machines

1


2


3


4

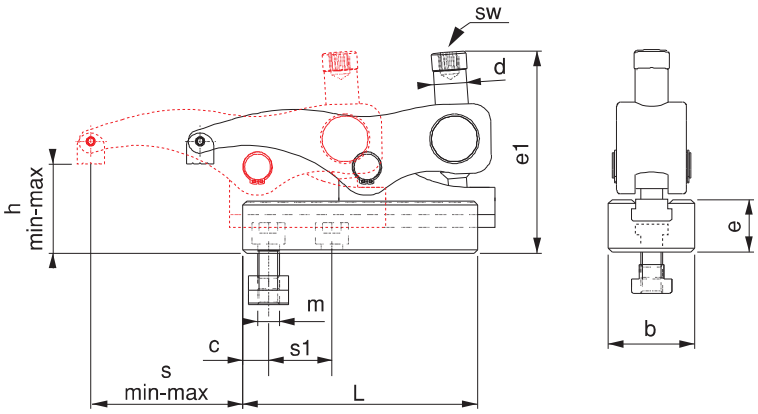

Referenz-Nr. Order No.	a	m	h min	h max	s	s1	e1	d	sw	L	e	b	c	Spannkraft Clamping Force Kgf	Nm	(g)
1150-118 T	18	M16	0	65	18-96	35	125	M20	12	140	43	55	19,5	2500	150	4410
1150-120 T	20	M16	0	65	18-96	35	125	M20	12	140	43	55	19,5	2500	150	4460
1150-122 T	22	M16	0	65	18-96	35	125	M20	12	140	43	55	19,5	2500	150	4515
1150-124 T	24	M16	0	65	18-96	35	125	M20	12	140	43	55	19,5	2500	150	4615
1150-128 T	28	M16	0	65	18-96	35	125	M20	12	140	43	55	19,5	2500	150	4715
1150-118 LT	18	M16	0	65	18-128	35	125	M20	12	200	43	55	19,5	2500	150	5770
1150-120 LT	20	M16	0	65	18-128	35	125	M20	12	200	43	55	19,5	2500	150	5830
1150-122 LT	22	M16	0	65	18-128	35	125	M20	12	200	43	55	19,5	2500	150	5885
1150-124 LT	24	M16	0	65	18-128	35	125	M20	12	200	43	55	19,5	2500	150	5985
1150-128 LT	28	M16	0	65	18-128	35	125	M20	12	200	43	55	19,5	2500	150	6000

1150-(T)
- (a) 18-28 in T-Nut wird Inbusschraube M16 DIN 508 mit T-Nutmutter werwendet.
- Spannhöhe 0-65 mm
- Spannweite 78 mm, Spannkraft 2500 kg.

1150-(LT)
- (a) 18-28 in T-Nut wird Inbusschraube M16 DIN 508 mit T-Nutmutter werwendet.
- Spannhöhe 0-65 mm
- Spannweite 110 mm, Spannkraft 2500 kg.

1150-(T)
- (a) 18-28 is used in T-Slot and M16 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 0-65mm.
- Back and forth movement distance is 78mm. Clamping force is 2500 kgf.

1150-(LT)
- (a) 18-28 is used in T-Slot and M16 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 0-65mm
- Back and forth movement. distance is 110mm. Clamping force is 2500 kgf.



1150-... T

1150-... LT

ANWENDUNG;
1- Zwischenelement an Werkstück befestigen
2- Grundkörper auf Zwischenelement verschieben
3- Werkstück mit Inbusschraube befestigen
4- Werkstück ist zum Bearbeiten bereit

APPLICATION;
1- Slide cradle is brought to suitable form with the work piece and then it is fixed
2- Upper body is driven to the slide and it is brought to desired position
3- Work piece is fixed with the imbus bolt of the clamp
4- Then the work piece becomes ready to be machined.

Verwendung
Injektionsmaschinen, Pressen, Fräsmaschinen, Bohrzentren, verschiedene Industriemaschinen

Area of Use
Injection Machines, Presses, Milling Machines, Drilling Machines and various Industrial Machines

1

2

3

4

Referenz-Nr. Order No.	a	m	h min	h max	s	s1	e1	d	sw		L	e	b	c	Spannkraft Clamping Force Kgf	Nm	(g)
1160-222 T	22	M20	20	80	17-92	41.5	175	M24	12	24	178	55	74	24	5500	200	9030
1160-224 T	24	M20	20	80	17-92	41.5	175	M24	12	24	178	55	74	24	5500	200	9120
1160-228 T	28	M24	20	80	17-92	41.5	175	M24	12	24	178	55	74	24	5500	200	9180
1160-236 T	36	M24	20	80	17-92	41.5	175	M24	12	24	178	55	74	24	5500	200	9600
1160-222 LT	22	M20	20	80	25-148	41.5	175	M24	12	24	256	55	74	24	5500	280	12110
1160-224 LT	24	M20	20	80	25-148	41.5	175	M24	12	24	256	55	74	24	5500	280	12210
1160-228 LT	28	M24	20	80	25-148	41.5	175	M24	12	24	256	55	74	24	5500	280	12270
1160-236 LT	36	M24	20	80	25-148	41.5	175	M24	12	24	256	55	74	24	5500	280	12310
1165-222 T	22	M20	30	80	34-92	41.5	194	M24	12	24	205	55	85	24	10000	270	11820
1165-224 T	24	M20	30	80	34-92	41.5	194	M24	12	24	205	55	85	24	10000	270	11900
1165-228 T	28	M24	30	80	34-92	41.5	194	M24	12	24	205	55	85	24	10000	270	11960
1165-236 T	36	M24	30	80	34-92	41.5	194	M24	12	24	205	55	85	24	10000	270	12000

1160-(T)
- (a) 22-36 in T-Nut wird Inbusschraube M20-M24 DIN 508 mit T-Nutmutter werwendet.
- Spannhöhe 20-80 mm
- Spannweite 75 mm, Spannkraft 5500 kg.

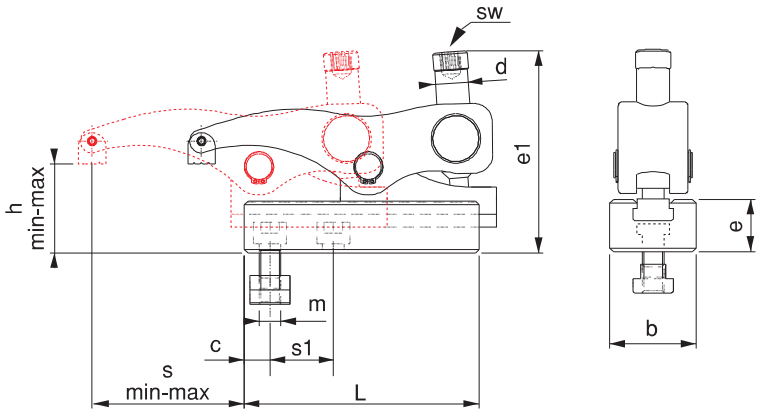
1160-(LT)
- (a) 22-36 in T-Nut wird Inbusschraube M20-M24 DIN 508 mit T-Nutmutter werwendet.
- Spannhöhe 20-80 mm
- Spannweite 123 mm, Spannkraft 5500 kg.

1165-(T)
- (a) 22-36 in T-Nut wird Inbusschraube M20-M24 DIN 508 mit T-Nutmutter werwendet.
- Spannhöhe 30-80 mm
- Spannweite 58 mm, Spannkraft 10000 kg.

Product Nr. 1160-(T) Combined Slinding Clamp
- (a) 22-36 is used in T-Slot and M20-M24 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 20-80mm.
- Back and forth movement distance is 75mm. Clamping force is 5500 kgf.

Product Nr. 1160-(LT) Combined Slinding Clamp
- (a) 22-36 is used in T-Slot and M20-M24 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 20-80mm.
- Back and forth movement distance is 123mm. Clamping force is 5500 kgf.

Product Nr. 1165-(T) Combined Slinding Clamp
- (a) 22-36 is used in T-Slot and M20-M24 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 30-80mm.
- Back and forth movement distance is 58mm. Clamping force is 10000 kgf.



ANWENDUNG;
1- Zwischenelement an Werkstück befestigen
2- Grundkörper auf Zwischenelement verschieben
3- Werkstück mit Inbusschraube befestigen
4- Werkstück ist zum Bearbeiten bereit

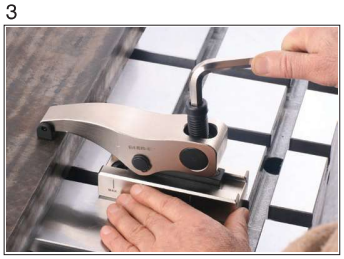
APPLICATION;
1- Slide cradle is brought to suitable form with the work piece and then it is fixed
2- Upper body is driven to the slide and it is brought to desired position
3- Work piece is fixed with the imbus bolt of the clamp
4- Then the work piece becomes ready to be machined.

Verwendung
Injektionsmaschinen, Pressen, Fräsmaschinen, Bohrzentren, verschiedene Industriemaschinen

Area of Use
Injection Machines, Presses, Milling Machines, Drilling Machines and various Industrial Machines

1


2


3


4

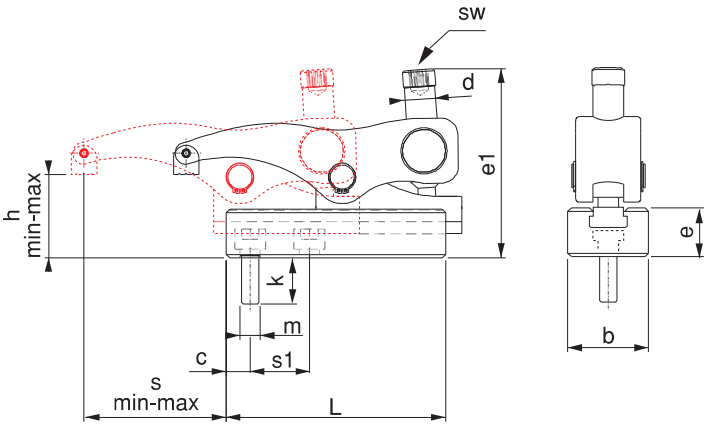

Referenz-Nr. Order No.	m	h min	h max	s	s1	e1	d	sw	L	e	b	c	k	Spannkraft Clamping Force Kgf	Nm	(g)
1120-010 M	M10	0	50	12-66	25	100	M14	8	104	35.5	38	13	20	1600	50	1740
1120-012 M	M12	0	0	12-66	25	100	M14	8	104	35.5	38	13	20	1600	50	1755
1120-010 LM	M10	0	50	12-81	25	100	M14	8	130	35.5	38	13	20	1600	50	1980
1120-012 LM	M12	0	50	12-81	25	100	M14	8	130	35.5	38	13	20	1600	50	1995

1120-(M)
- Für Gewinde M12-M16 Inbusschrauben 1120-310 / 1120-312 verwenden
- Spannhöhe 0-50 mm
- Spannweite 54 mm, Spannkraft 1600 kg.

1120-(LM)
- Für Gewinde M12-M16 Inbusschrauben 1120-310 / 1120-312 verwenden
- Spannhöhe 0-50 mm
- Spannweite 69 mm, Spannkraft 1600 kg.

1120-(M)
- In the outer holes M10-M12 are used with the Reference Nr. imbus bolt (1120-310)-(1120-312)
- Height clamping gap of the piece is 0-50mm.
- Back and forth movement distance is 54mm. Clamping force is 1600 kgf.

1120-(LM)
- In the outer holes M10-M12 are used with the Reference Nr. imbus bolt (1120-310)-(1120-312)
- Height clamping gap of the piece is 0-50mm.
- Back and forth movement distance is 69mm. Clamping force is 1600 kgf.



1120-... M

1120-... LM

VORTEILE;
- Spannkraft 1600 kg - 2000 kg
- Verwendung in Löchern und T-Kanal
- Mit verschieben unterschiedliche Positionierungen möglich
- Unterschiedliche Spannweiten mittels Inbusschraube ohne Stütze
- Praktische Bauart ermöglicht einfaches und schnelles Spannen

ADVANTAGES
- 1600 kgf - 2000 kgf Clamping Force.
- Usings in the hole and T-Slot.
- Ability to be fixed in verious positions by sliding on the slide.
- It clamps high and low distances without support with the imbus bolt.
- It provides rapid and easy connection due to it's practical structure.

1

2

3

4

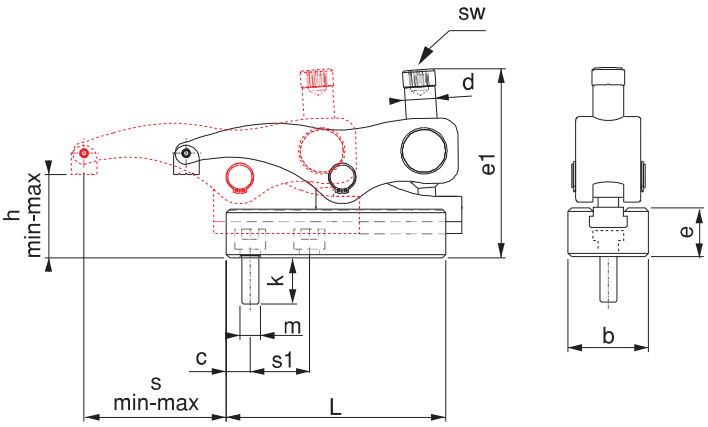
Referenz-Nr. Order No.	m	h min	h max	s	s1	e1	d	sw	L	e	b	c	k	Spannkraft Clamping Force Kgf	Nm	(g)
1130-012 M	M12	0	60	15-83	30	113	M18	10	130	39	48	17,5	22	2000	100	3040
1130-016 M	M16	0	60	15-83	30	113	M18	10	130	39	48	17,5	26	2000	100	3055
1130-012 LM	M12	0	60	15-107	30	113	M18	10	170	39	48	17,5	22	2000	100	3820
1130-016 LM	M16	0	60	15-107	30	113	M18	10	170	39	48	17,5	26	2000	100	3835

1130-(M)
- Für Gewinde M12-M16 Inbusschrauben 1130-412 / 1130-416 verwenden
- Spannhöhe 0-60 mm
- Spannweite 68 mm, Spannkraft 2000 kg.

1130-(LM)
- Für Gewinde M12-M16 Inbusschrauben 1130-412 / 1130-416 verwenden
- Spannhöhe 0-60 mm
- Spannweite 92 mm, Spannkraft 2000 kg.

1130-(M)
- In the outer holes M12-M16 are used with the Reference Nr. imbus bolt (1130-412)-(1130-416)
- Height clamping gap of the piece is 0-60mm.
- Back and forth movement distance is 68mm. Clamping force is 2000 kgf.

1130-(LM)
- In the outer holes M12-M16 are used with the Reference Nr. imbus bolt (1130-412)-(1130-416)
- Height clamping gap of the piece is 0-60mm.
- Back and forth movement. distance is 92mm. Clamping force is 2000 kgf.



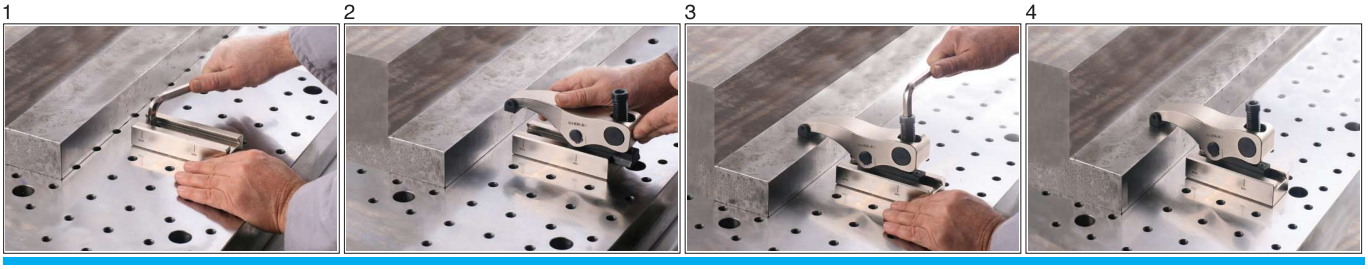
1130-... M

1130-... LM

VORTEILE;
- Spannkraft 1600 kg - 2000 kg
- Verwendung in Löchern und T-Kanal
- Mit verschieben unterschiedliche Positionierungen möglich
- Unterschiedliche Spannweiten mittels Inbusschraube ohne Stütze
- Praktische Bauart ermöglicht einfaches und schnelles Spannen

ADVANTAGES
- 1600 kgf - 2000 kgf Clamping Force.
- Usings in the hole and T-Slot.
- Ability to be fixed in verious positions by sliding on the slide.
- It clamps high and low distances without support with the imbus bolt.
- It provides rapid and easy connection due to it's practical structure.

1 2 3 4



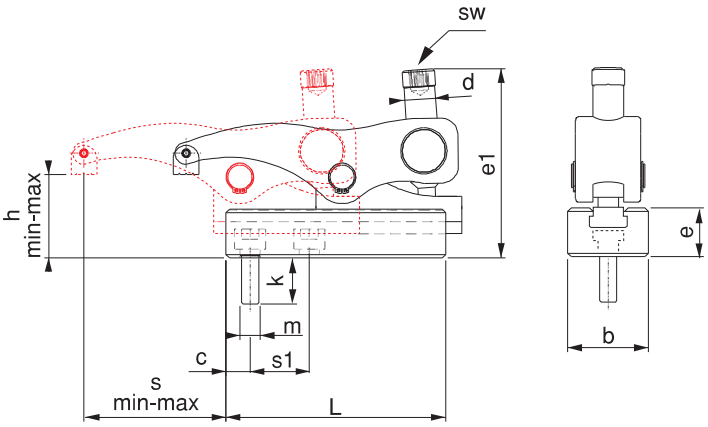
Referenz-Nr. Order No.	m	h min	h max	s	s1	e1	d	sw	L	e	b	c	k	Spannkraft Clamping Force Kgf	Nm	(g)
1150-116 M	M16	0	65	18-96	35	125	M20	12	140	43	55	19.5	26	2500	150	4340
1150-118 M	M18	0	65	18-96	35	125	M20	12	140	43	55	19.5	30	2500	150	4360
1150-120 M	M20	0	65	18-96	35	125	M20	12	140	43	55	19.5	30	2500	150	4370
1150-116 LM	M16	0	65	18-128	35	125	M20	12	200	43	55	19.5	26	2500	150	5770
1150-118 LM	M18	0	65	18-128	35	125	M20	12	200	43	55	19.5	30	2500	150	5830
1150-120 LM	M20	0	65	18-128	35	125	M20	12	200	43	55	19.5	30	2500	150	5885

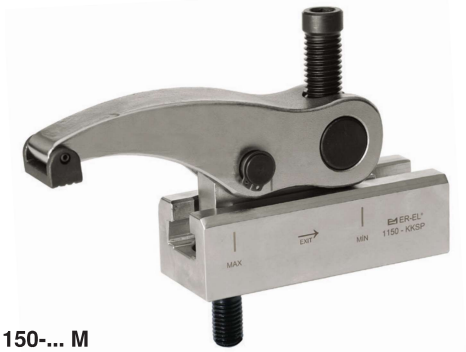
1150-(M)
- Für Gewinde M16-M18-M20 Inbusschrauben 1150-516 / 1150-518 / 1150-520 verwenden
- Spannhöhe 0-65 mm
- Spannweite 78 mm, Spannkraft 2500 kg.

1150-(LM)
- Für Gewinde M16-M18-M20 Inbusschrauben 1150-516 / 1150-518 / 1150-520 verwenden
- Spannhöhe 0-65 mm
- Spannweite 110 mm, Spannkraft 2500 kg.

1150-(M)
- In the outer holes M16-M18-M20 are used with the Reference Nr. imbus bolt (1150-516)-(1150-518)-(1150-520).
- Height clamping gap of the piece is 0-65mm.
- Back and forth movement distance is 78mm. Clamping force is 2500 kgf.

1150-(LM)
- In the outer holes M16-M18-M20 are used with the Reference Nr. imbus bolt (1150-516)-(1150-518)-(1150-520).
- Height clamping gap of the piece is 0-65mm.
- Back and forth movement distance is 110mm. Clamping force is 2500 kgf.





1150-... M

1150-... LM

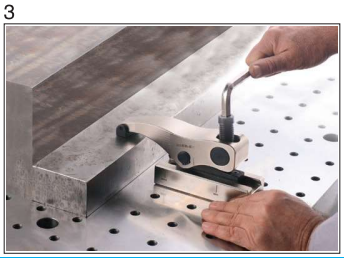
VORTEILE;
- Spannkraft 1600 kg - 2000 kg
- Verwendung in Löchern und T-Kanal
- Mit verschieben unterschiedliche Positionierungen möglich
- Unterschiedliche Spannweiten mittels Inbusschraube ohne Stütze
- Praktische Bauart ermöglicht einfaches und schnelles Spannen

ADVANTAGES
- 1600 kgf - 2000 kgf Clamping Force.
- Usings in the hole and T-Slot.
- Ability to be fixed in verious positions by sliding on the slide.
- It clamps high and low distances without support with the imbus bolt.
- It provides rapid and easy connection due to it's practical structure.

1

2

3



4

Referenz-Nr. Order No.	m	h min	h max	s	s1	e1	d	sw		L	e	b	c	k	Spannkraft Clamping Force Kgf	Nm	(g)
1160-220 M	M20	20	80	17-92	41.5	175	M24	12	24	178	55	74	24	34	5500	200	8880
1160-222 M	M22	20	80	17-92	41.5	175	M24	12	24	178	55	74	24	38	5500	200	8900
1160-224 M	M24	20	80	17-92	41.5	175	M24	12	24	178	55	74	24	44	5500	200	8920
1160-230 M	M30*	20	80	17-92	41.5	175	M24	12	24	178	55	74	24	51	5500	200	9110
1160-220 LM	M20	20	80	25-148	41.5	175	M24	12	24	256	55	74	24	34	5500	280	12110
1160-222 LM	M22	20	80	25-148	41.5	175	M24	12	24	256	55	74	24	38	5500	280	12210
1160-224 LM	M24	20	80	25-148	41.5	175	M24	12	24	256	55	74	24	44	5500	280	12270
1160-230 LM	M30*	20	80	25-148	41.5	175	M24	12	24	256	55	74	24	51	5500	280	12310
1165-220 M	M20	30	80	34-92	41.5	215	M24	12	24	205	55	85	24	34	10000	270	11820
1165-222 M	M22	30	80	34-92	41.5	215	M24	12	24	205	55	85	24	38	10000	270	11900
1165-224 M	M24	30	80	34-92	41.5	215	M24	12	24	205	55	85	24	44	10000	270	11960
1165-230 M	M30*	30	80	34-92	41.5	215	M24	12	24	205	55	85	24	51	10000	270	12000

1160-(M)
- Für Gewinde M20-M22-M24-M30 Inbusschrauben 1160-620 / 1160-622 / 1160-624 / 1160-724 / 1160-730 verwenden
- Spannhöhe 20-80 mm
- Spannweite 75 mm, Spannkraft 5500 kg.

1160-(LM)
- Für Gewinde M20-M22-M24-M30 Inbusschrauben 1160-620 / 1160-622 / 1160-624 / 1160-724 / 1160-730 verwenden
- Spannhöhe 20-80 mm
- Spannweite 123 mm, Spannkraft 5500 kg.

1165-(M)
- Für Gewinde M20-M22-M24-M30 Inbusschrauben 1160-620 / 1160-622 / 1160-624 / 1160-724 / 1160-730 verwenden
- Spannhöhe 30-80 mm
- Spannweite 58 mm, Spannkraft 10000 kg.

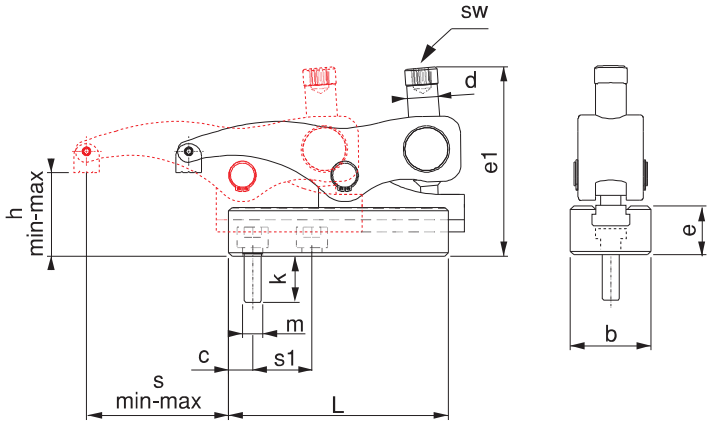
Hinweis: Die Bohrung für Zylinderschraube des Trägerelements von 1160-230M / Nr.1165-230M ist außerhalb der Standardabmessungen. Sie wird für diesen Artikel speziell gefertigt.

1160-(M)
- In the outer holes M20-M22-M24-M30 are used with the Reference Nr. imbus bolt (1160-620)-(1160-622)-(1160-624)-(1160-724)-(1160-730)
- Height clamping gap of the piece is 20-80mm.
- Back and forth movement distance is 75mm. Clamping force is 5500 kgf.

1160-(LM)
- In the outer holes M20-M22-M24-M30 are used with the Reference Nr. imbus bolt (1160-620)-(1160-622)-(1160-624)-(1160-724)-(1160-730)
- Height clamping gap of the piece is 20-80mm.
- Back and forth movement distance is 123mm. Clamping force is 5500 kgf.

1165-(M)
- In the outer holes M20-M22-M24-M30 are used with the Reference Nr. imbus bolt (1160-620)-(1160-622)-(1160-624)-(1160-724)-(1160-730)
- Height clamping gap of the piece is 30-80mm.
- Back and forth movement distance is 58mm. Clamping force is 10000 kgf.

Note: The drilling for cylinder head screw of the support element for 1160-230M - Nr.1165-230M is not standard. It is specially manufactured for this product.



1160-... M

1160-... LM

1165-... M

VORTEILE;
- Spannkraft 1600 kg - 2000 kg
- Verwendung in Löchern und T-Kanal
- Mit verschieben unterschiedliche Positionierungen möglich
- Unterschiedliche Spannweiten mittels Inbusschraube ohne Stütze
- Praktische Bauart ermöglicht einfaches und schnelles Spannen

ADVANTAGES
- 1600 kgf - 2000 kgf Clamping Force.
- Usings in the hole and T-Slot.
- Ability to be fixed in verious positions by sliding on the slide.
- It clamps high and low distances without support with the imbus bolt.
- It provides rapid and easy connection due to it's practical structure.

1

2

3

4

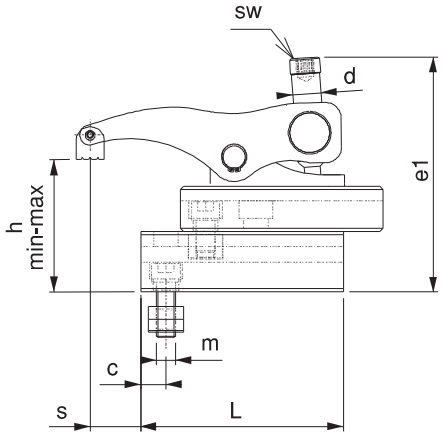
Referenz-Nr. Order No.	a	m	h min	h max	s	e1	e2	d	sw	L	b	e3	c	(g)
1120-014 DT	14	M12	36	86	12-66	136	71.5	M14	8	104	38	38	13	2540
1120-016 DT	16	M12	36	86	12-66	136	71.5	M14	8	104	38	38	13	2540
1120-018 DT	18	M12	36	86	12-66	136	71.5	M14	8	104	38	38	13	2540
1120-014 LDT	14	M12	36	86	12-81	136	71.5	M14	8	130	38	38	13	2980
1120-016 LDT	16	M12	36	86	12-81	136	71.5	M14	8	130	38	38	13	2995
1120-018 LDT	18	M12	36	86	12-81	136	71.5	M14	8	130	38	38	13	3000

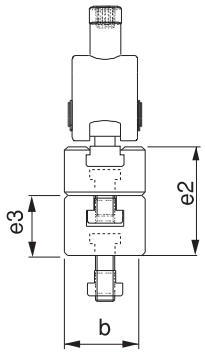
1120-(DT)
- M12 DIN 508 mit T-Nutmutter werwendet.
- Spannhöhe 36-86 mm
- Spannweite 54 mm, Spannkraft 1600 kg.

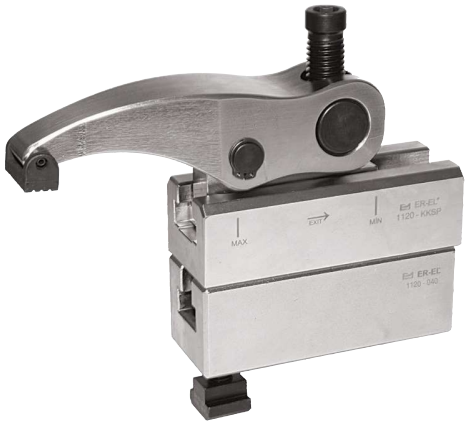
1120-(LDT)
- M12 DIN 508 mit T-Nutmutter werwendet.
- Spannhöhe 36-86 mm
- Spannweite 69 mm, Spannkraft 1600 kg.

1120-(DT)
- M12 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 36-86mm
- Back and forth movement distance is 54mm. Clamping force is 1600 kgf.

1120-(LDT)
- M12 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 36-86mm.
- Back and forthmovement distance is 69mm. Clamping force is 1600 kgf.







ANWENDUNG;
1- Zwischenstück an Werkstück befestigen
2- Höhen-Anpassung durch weitere Zwischenstücke
3- Grundkörper auf Zwischenstück schieben, Inbusschraube auf T-Nut positionieren
4- Werkstück mit Inbusschraube befestigen

APPLICATION
1- Bottom support is brought to suitable form with the work piece and then it is fixed.
2- Desired distance is reached by increasing K.K.S.P. supports
3- K.K.S.P. is applied in T-Slot with imbus bolt against T-Nut
4- Work piece is fixed with the imbus bolt of the clamp

1

2

3

4

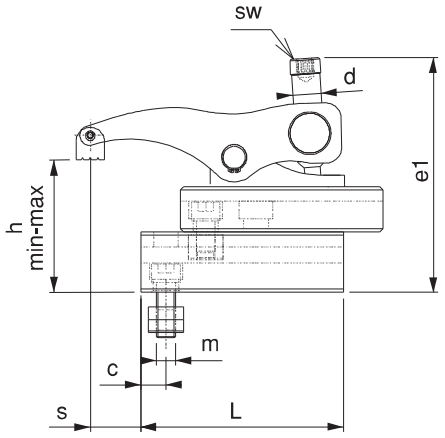
Referenz-Nr. Order No.	a	m	h min	h max	s	e1	e2	d	sw	L	b	e3	c	(g)
1130-014 DT	14	M12	45	105	15-83	158	83	M18	10	130	48	45	17.5	4750
1130-016 DT	16	M12	45	105	15-83	158	83	M18	10	130	48	45	17.5	4775
1130-018 DT	18	M12	45	105	15-83	158	83	M18	10	130	48	45	17.5	4805
1130-020 DT	20	M12	45	105	15-83	158	83	M18	10	130	48	45	17.5	4885
1130-022 DT	22	M12	45	105	15-83	158	83	M18	10	130	48	45	17.5	4905
1130-014 LDT	14	M12	45	105	15-107	158	83	M18	10	170	48	45	17.5	5970
1130-016 LDT	16	M12	45	105	15-107	158	83	M18	10	170	48	45	17.5	5985
1130-018 LDT	18	M12	45	105	15-107	158	83	M18	10	170	48	45	17.5	6015
1130-020 LDT	20	M12	45	105	15-107	158	83	M18	10	170	48	45	17.5	6045
1130-022 LDT	22	M12	45	105	15-107	158	83	M18	10	170	48	45	17.5	6080

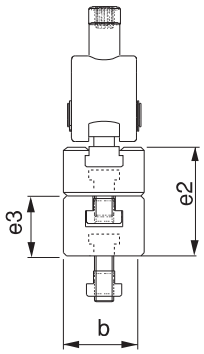
1130-(DT)
- M12 DIN 508 mit T-Nutmutter werwendet.
- Spannhöhe 45-105 mm
- Spannweite 68 mm, Spannkraft 2000 kg.

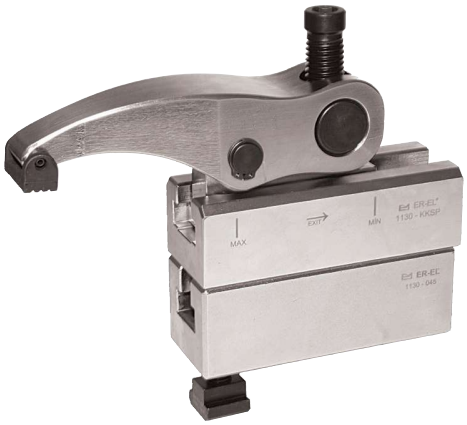
1130-(LDT)
- M12 DIN 508 mit T-Nutmutter werwendet.
- Spannhöhe 45-105 mm
- Spannweite 92 mm, Spannkraft 2000 kg.

1130-(DT)
- M12 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 45-105mm
- Back and forth movement distance is 68mm. Clamping force is 2000 kgf.

1130-(LDT)
- M12 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 45-105mm
- Back and forth movement distance is 92mm. Clamping force is 2000 kgf.







ANWENDUNG;
1- Zwischenstück an Werkstück befestigen
2- Höhen-Anpassung durch weitere Zwischenstücke
3- Grundkörper auf Zwischenstück schieben, Inbusschraube auf T-Nut positionieren
4- Werkstück mit Inbusschraube befestigen

APPLICATION
1- Bottom support is brought to suitable form with the work piece and then it is fixed.
2- Desired distance is reached by increasing K.K.S.P. supports
3- K.K.S.P. is applied in T-Slot with imbus bolt against T-Nut
4- Work piece is fixed with the imbus bolt of the clamp

1


2


3


4

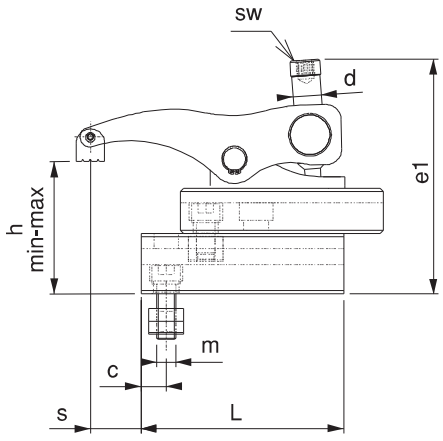

Referenz-Nr. Order No.	a	m	h min	h max	s	e1	e2	d	sw	L	b	e3	c	(g)
1150-118 DT	18	M16	48	113	18-96	173	90	M20	12	140	55	48	19.5	6625
1150-120 DT	20	M16	48	113	18-96	173	90	M20	12	140	55	48	19.5	6690
1150-122 DT	22	M16	48	113	18-96	173	90	M20	12	140	55	48	19.5	6750
1150-124 DT	24	M16	48	113	18-96	173	90	M20	12	140	55	48	19.5	6840
1150-128 DT	28	M16	48	113	18-96	173	90	M20	12	140	55	48	19.5	6960
1150-118 LDT	18	M16	48	113	18-128	173	90	M20	12	200	55	48	19.5	8770
1150-120 LDT	20	M16	48	113	18-128	173	90	M20	12	200	55	48	19.5	8830
1150-122 LDT	22	M16	48	113	18-128	173	90	M20	12	200	55	48	19.5	8885
1150-124 LDT	24	M16	48	113	18-128	173	90	M20	12	200	55	48	19.5	8985
1150-128 LDT	28	M16	48	113	18-128	173	90	M20	12	200	55	48	19.5	9000

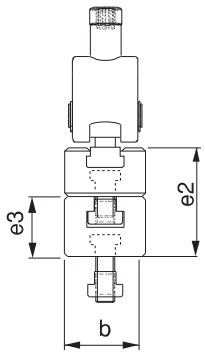
1150-(DT)
- M16 DIN 508 mit T-Nutmutter werwendet.
- Spannhöhe 48-113 mm
- Spannweite 78 mm, Spannkraft 2500 kg.

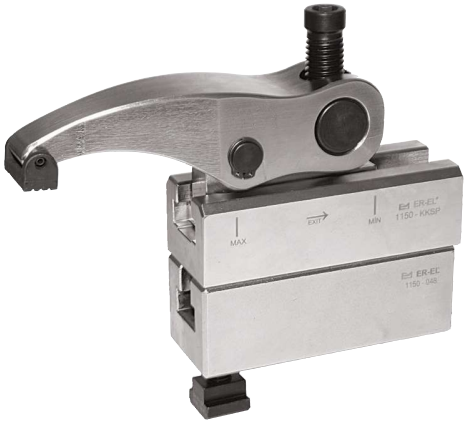
1150-(LDT)
- M16 DIN 508 mit T-Nutmutter werwendet.
- Spannhöhe 48-113 mm
- Spannweite 110 mm, Spannkraft 2500 kg.

Product Nr. 1150-(DT) Bottom Supported
- M16 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 48-113mm
- back-and- forth movement distance is 78mm. Clamping force is 2500 kgf.

Product Nr. 1150-(LDT) Bottom Supported
- M16 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 48-113mm
- back-and- forth movement distance is 110mm. Clamping force is 2500 kgf.







ANWENDUNG;
1- Zwischenstück an Werkstück befestigen
2- Höhen-Anpassung durch weitere Zwischenstücke
3- Grundkörper auf Zwischenstück schieben,
Inbusschraube auf T-Nut positionieren
4- Werkstück mit Inbusschraube befestigen

APPLICATION
1- Bottom support is brought to suitable form with the work piece and then it is fixed.
2- Desired distance is reached by increasing K.K.S.P. supports
3- K.K.S.P. is applied in T-Slot with imbus bolt against T-Nut
4- Work piece is fixed with the imbus bolt of the clamp

1


2


3


4

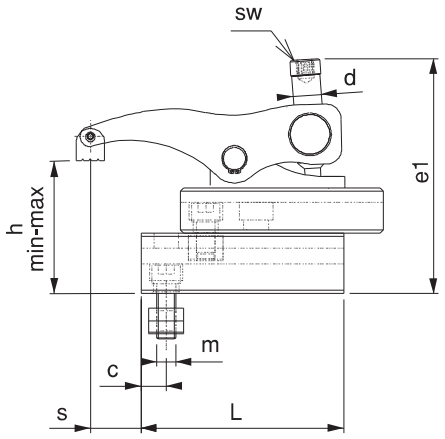

Referenz-Nr. Order No.	a	m	h min	h max	s	e1	e2	d	sw		L	b	e3	c	(g)
1160-222 DT	22	M20	79	139	17-92	235	114	M24	12	24	178	74	59	24	13330
1160-224 DT	24	M20	79	139	17-92	235	114	M24	12	24	178	74	59	24	13465
1160-228 DT	28	M24	79	139	17-92	235	114	M24	12	24	178	74	59	24	13580
1160-236 DT	36	M24	79	139	17-92	235	114	M24	12	24	178	74	59	24	13890
1160-222 LDT	22	M20	79	139	25-148	235	114	M24	12	24	256	74	59	24	17910
1160-224 LDT	24	M20	79	139	25-148	235	114	M24	12	24	256	74	59	24	18210
1160-228 LDT	28	M24	79	139	25-148	235	114	M24	12	24	256	74	59	24	18270
1160-236 LDT	36	M24	79	139	25-148	235	114	M24	12	24	256	74	59	24	18310

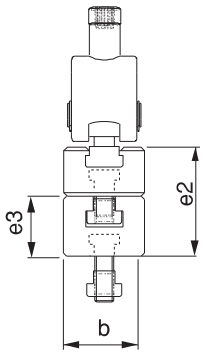
1160-(DT)
- M20-M24 DIN 508 mit T-Nutmutter werwendet.
- Spannhöhe 79-139 mm
- Spannweite 75 mm, Spannkraft 5500 kg.

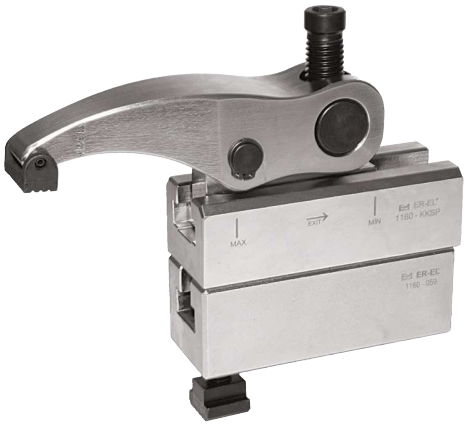
1160-(LDT)
- M20-M24 DIN 508 mit T-Nutmutter werwendet.
- Spannhöhe 79-139 mm
- Spannweite 123 mm, Spannkraft 5500 kg.

Product Nr. 1160-(DT) Bottom Supported
- M20-M24 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 79-139mm
- Back and forth movement distance is 75mm. Clamping force is 5500 kgf.

Product Nr. 1160-(LDT) Bottom Supported
- M20-M24 imbus bolt is used with DIN 508 T-Nut.
- Height clamping gap of the piece is 79-139mm
- Back and forth movement distance is 123mm. Clamping force is 5500 kgf.







ANWENDUNG;
1- Zwischenstück an Werkstück befestigen
2- Höhen-Anpassung durch weitere Zwischenstücke
3- Grundkörper auf Zwischenstück schieben, Inbusschraube auf T-Nut positionieren
4- Werkstück mit Inbusschraube befestigen

APPLICATION
1- Bottom support is brought to suitable form with the work piece and then it is fixed.
2- Desired distance is reached by increasing K.K.S.P. supports
3- K.K.S.P. is applied in T-Slot with imbus bolt against T-Nut
4- Work piece is fixed with the imbus bolt of the clamp

1


2


3


4

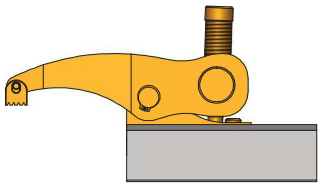

Kraftspanner Oberteil

Upper Slide Group

Referenz-Nr. Order No.	a	h min	h max	sw		(g)
1120-0050	14-18	0	50	8	-	860
1120-0051	14-18	0	50	8	-	1050
1130-0060	14-22	0	60	10	-	1680
1130-0061	14-22	0	60	10	-	2150
1150-0062	18-28	0	65	12	-	2565
1150-0063	18-28	0	65	12	-	3360
1160-2080	22-36	20	80	12	24	5050
1160-2081	22-36	20	80	12	24	6900
1165-3080	22-36	20	80	-	24	6850

1120-1130-1150-1160-1165
- Kraftspanner obere Gruppe: Stahl geschmiedet
- Gehärtet

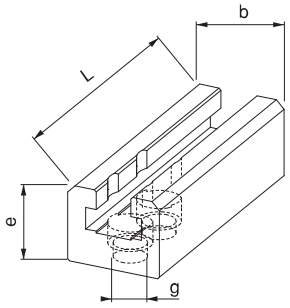
1120-1130-1150-1160-1165
- Upper Slide Group: Forged Steel
- Hardened



Kraftspanner Grundelement

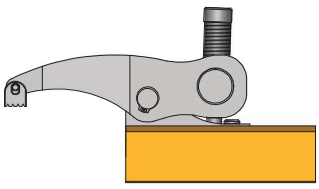
Body with Bottom T-Slide

Referenz-Nr. Order No.	g	a	L	b	e	(g)
1120-045	M10 M12	14-18	104	38	35.5	750
1120-145	M10 M12	14-18	130	38	39	950
1130-047	M12 M16	18-28	130	48	39	1275
1130-147	M12 M16	18-28	170	48	39	1700
1150-053	M16 M18 M20	18-28	140	55	42	1700
1150-153	M16 M18 M20	18-28	200	55	42	2500
1160-074	M20 M22 M24	22-28	178	74	55	3650
1160-075	M30*	36	178	74	55	3650
1160-174	M20 M22 M24	22-28	256	74	55	5400
1160-175	M30*	36	256	74	55	5400
1165-085	M20 M22 M24	36	205	85	55	5300
1165-086	M30*	36	205	85	55	5300

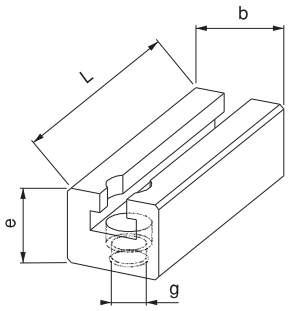


1120-1130-1150-1160-1165
- Gehärtet

1120-1130-1150-1160-1165
- Hardened

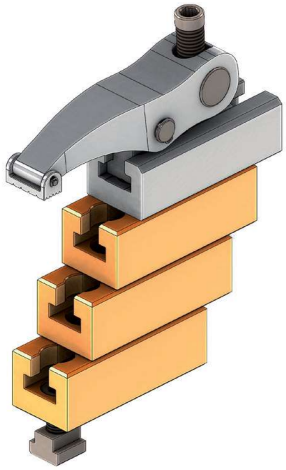


Referenz-Nr. Order No.	g	a	L	b	e	(g)
1120-040	M10 M12	14	104	38	38	820
1120-140	M10 M12	14	130	38	38	1030
1130-045	M12 M16	14	130	48	45	1630
1130-145	M12 M16	14	170	48	45	2150
1150-048	M16 M18 M20	18	140	55	48	2070
1150-148	M16 M18 M20	18	200	55	48	3000
1160-059	M20 M22 M24	28	178	74	59	3980
1160-159	M20 M22 M24	28	256	74	59	5800



1120-1130-1150-1160
• Gehärtet

1120-1130-1150-1160
• Hardened



ANWENDUNG;
1- Zwischenstück an Werkstück befestigen
2- Höhen-Anpassung durch weitere Zwischenstücke
3- Grundkörper auf Zwischenstück schieben,
Inbusschraube auf T-Nut positionieren
4- Werkstück mit Inbusschraube befestigen

APPLICATION
1- Bottom support is brought to suitable form with the work piece and then it is fixed.
2- Desired distance is reached by increasing K.K.S.P. supports
3- K.K.S.P. is applied in T-Slot with imbus bolt against T-Nut
4- Work piece is fixed with the imbus bolt of the clamp

1

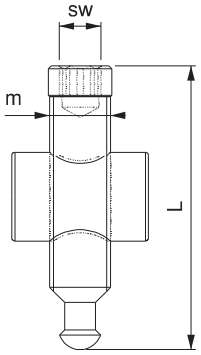

2

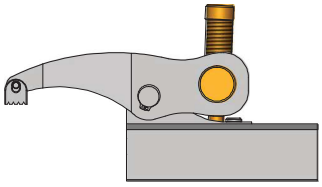

3


4


Pabuç Kaldırma Civata ve Somunu
Clamp Lifting Bolt and Nut

Referenz-Nr. Order No.	m	L	sw		(g)
1120-0714	M14	72	8	-	138
1130-0818	M18	83	10	-	235
1150-0920	M20	96	12	-	360
1160-1024	M24	134	12	24	795
1165-1124	M24	149	-	24	950



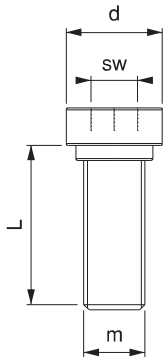


1120-1130-1150-1160-1165
- Gehärtet
- Schwarz beschichtet

1120-1130-1150-1160-1165
- Hardened
- Black Coating

Inbusschraube
Imbus Bolt for Fixing

Referenz-Nr. Order No.	m	L	d	sw	(g)
1120-310	M10	29	16.5	8	28
1120-312	M12	29	16.5	8	34
1130-412	M12	30	20.5	10	45
1130-416	M16	34	20.5	10	75
1150-516	M16	34	24.5	12	75
1150-518	M18	38	24.5	12	90
1150-520	M20	38	24.5	12	105
1160-620	M20	45	34	12	170
1160-622	M22	49	34	12	217
1160-624	M24	45	34	12	390
1160-724	M24	55	34	12	405
1160-730	M30*	66	38.5	12	450
1165-820	M20	45	34	12	170
1165-822	M22	49	34	12	217
1165-824	M24	45	34	12	390
1165-924	M24	55	34	12	405
1165-930	M30*	66	38.5	12	400



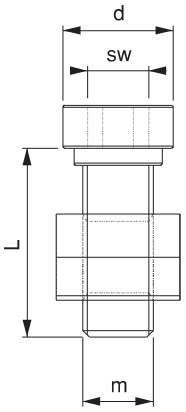
1120-1130-1150-1160-1165
- Für Gewindelöcher M12-M16-M18-M20
- Qualitat 10.9
- Schwarz beschichtet

1120-1130-1150-1160-1165
- For M12-M16-M18-M20 thread holes
- Quality 10.9
- Black Coating

Befestigungssatz für Trägerelement

Fixing Imbus Bolt and T-Nut

Referenz-Nr. Order No.	a	m	L	d	sw	(g)
1120-512	12	M10	29	16.5	8	48
1120-514*	14	M12	29	16.5	8	54
1130-614*	14	M12	30	20.5	10	80
1130-616	16	M12	30	20.5	10	100
1130-618	18	M12	30	20.5	10	130
1130-620	20	M12	36	20.5	10	180
1130-622	22	M12	36	20.5	10	220
1150-718*	18	M16	34	24.5	12	145
1150-720	20	M16	34	24.5	12	190
1150-722	22	M16	42	24.5	12	260
1150-724	24	M16	42	24.5	12	350
1150-728	28	M16	42	24.5	12	470
1160-822	22	M20	45	34	12	320
1160-824	24	M20	45	34	12	410
1160-826*	28	M24	45	34	12	550
1160-828	28	M24	55	34	12	580
1160-832	32	M24	61	34	12	603
1160-836	36	M24	66	38.5	12	865
1165-922	22	M20	45	34	12	320
1165-924	24	M20	45	34	12	410
1165-926*	28	M24	45	34	12	550
1165-928	28	M24	55	34	12	580
1165-932	32	M24	61	34	12	603
1165-936	36	M24	66	38.5	12	865



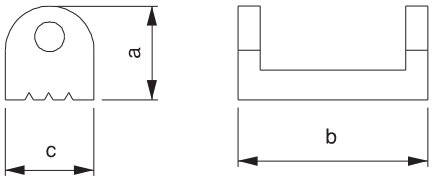
1120-1130-1150-1160-1165
- (a) 14-28 T-Nut Fixier-Inbusschraube und T-Nut DIN 508
- Qualitat 10.9
- Schwarz beschichtet
- Stützschrauben unten

1120-1130-1150-1160-1165
- (a) 14-28 T-Slot fixing imbus bolt and T-Nut DIN 508
- Quality 10.9
- Black Coating
- Star-marked codes are bottom support bolts.

Spannbacke

Front Press Clamp

Referenz-Nr. Order No.	a	b	c	(g)
1120-DP	13.5	26.5	12	15
1120-BSP	15.5	26.5	12	18
1120-ESP	18	26.5	12	21
1130-DP	17	32	15	20
1130-BSP	19	32	15	30
1130-ESP	22	32	15	30
1150-DP	19	38	18	40
1150-BSP	21	38	18	40
1150-ESP	25	38	18	50
1160-DP	22	44	22	55
1160-BSP	25	44	22	70
1160-ESP	28	44	22	80
1165-DP	22	44	22	55
1165-BSP	25	44	22	70
1165-ESP	28	44	22	80



DP

BSP

ESP

1120-1130-1150-1160-1165
- DP: Spannen flacher Werkstücke
- BSP: zylindrisch spannen in der Länge
- ESP: zylindrisch spannen in der Breite
- Schwarz beschichtet

1120-1130-1150-1160-1165
- Product DP : Straight piece clamping
- Product BSP: Longitudional cylinder clamping
- Product ESP: Lateril cylinder clamping
- Black Coating