

## CTV Series Introduction & Technical Data

The Matara CTV series is available as a fully sealed or open actuator. The CTV incorporates a pair of precision linear guides, mounted either side of the ballscrew which runs through the centre of the assembly. Furthermore, a central lubrication port is incorporated to allow for quick and simple maintenance. These units are available with a range of mounting fixtures, flanges, couplings, motors and gearboxes.

Technical Data										
Series			CTV 90 S	CTV 90 L	CTV 110 S	CTV 110 L	CTV 145 S	CTV 145 L	CTV 200 S	CTV 200 L
Carriage length	Lv	mm	35	100	39	124	49	149	80	255
Dynamic load capacity	C	N	4620	9240	19800	39600	34200	68400	49600	99200
Dynamic moment	Mx	Nm	125	250	650	1305	1500	3005	3220	6445
	My	Nm	17	300	118	1680	260	3420	450	8680
	Mz	Nm	34	300	235	1680	520	3420	900	8680
Max. permissible loads (Forces)	Fpy	N	2000	3990	4670	13080	8930	17870	10000	20000
	Fpz	N	4540	9090	9390	18800	15320	30680	24610	51540
Max. permissible loads (Moments)	Mpx	Nm	125	250	310	620	674	1350	1600	3350
	Mpy	Nm	17	297	90	800	260	1700	450	4550
	Mpz	Nm	34	130	90	550	180	893	308	1750
Moved Mass		kg	0.3	0.5	0.63	1.36	1.19	2.61	3.11	6.21
* Max. length	Lmax	mm	750	750	1500	1500	1800	1800	2200	2200
* Max. stroke		mm	665	600	1410	1325	1690	1590	2000	1825

\* For lengths/stroke over the stated value in the table above please contact us.  
Values for max. stroke are not valid for double carriage (equation of defining the linear unit length for particular size of the linear unit needs to be used).

\*\* For minimum stroke below the stated value in the table above please contact us.

Selection	Selection
Operating temperature	0°C ~ +60°C
Duty cycle	100%

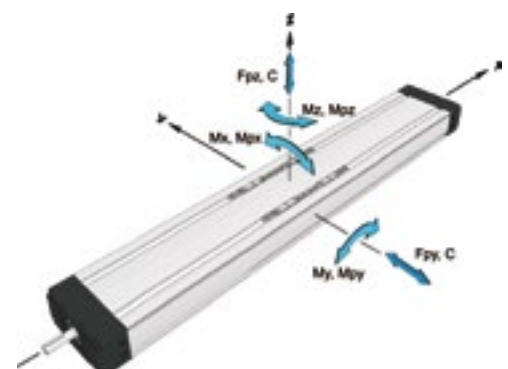
*For operating temperatures out of the presented range, please contact us.*

### **i** Recommended values of loads

All the data of dynamic moments and load capacities stated in the upper table are theoretical without considering any safety factor. The safety factor depends on the application and its requested safety. We recommend a minimum safety factor ( $f_s = 5.0$ )

#### Modulus of elasticity

$$E = 70000 \text{ N/mm}^2$$

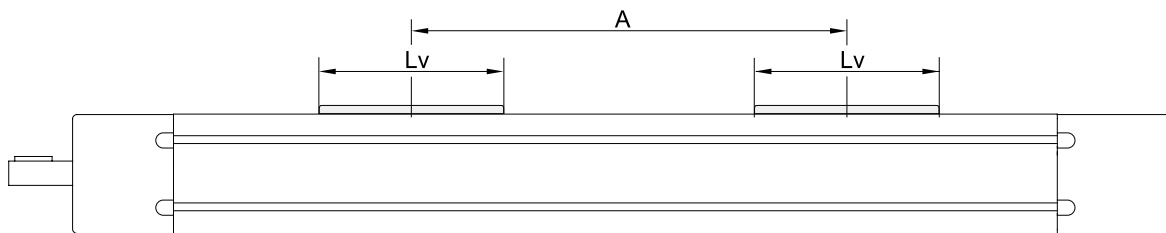


## CTV Series Technical Data For Double Carriage

Double Carriage Technical Data											
Series		CTV 90		CTV 110		CTV 145		CTV 200			
Carriage version		S2		S2		S2		S2			
Dynamic load capacity		C	N	9240		39600		68400		99200	
Dynamic moment		Mx	Nm	250		1300		3000		6440	
		My	Nm	4.6 * A (mm)		19.8 * A (mm)		34.2 * A (mm)		49.6 * A (mm)	
		Mz	Nm	4.6 * A (mm)		19.8 * A (mm)		34.2 * A (mm)		49.6 * A (mm)	
Max. permissible loads (Forces)		Fpy	N	3990		12940		17870		20000	
		Fpz	N	9090		18790		30640		49230	
Max. permissible loads (Moments)		Mpx	Nm	250		620		1350		3200	
		Mpy	Nm	4.5 * A (mm)		9.4 * A (mm)		15.3 * A (mm)		24.6 * A (mm)	
		Mpz	Nm	2.0 * A (mm)		6.5 * A (mm)		8.9 * A (mm)		10.0 * A (mm)	

\* A- Distance between carriages.

**i** For a higher number of carriages, please contact us

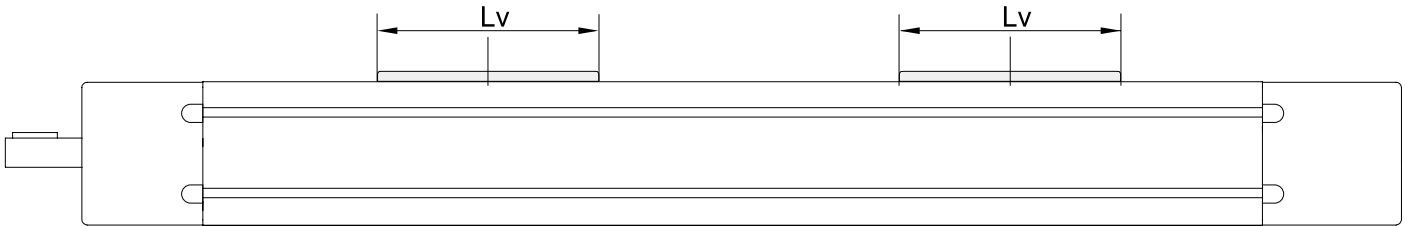


## Ballscrew Technical Data

Ballscrew Technical Data																
Series		CTV 90			CTV 110			CTV 145				CTV 200				
Ballscrew		d x l	12 x 5	12 x 10	16 x 5	16 x 10	16 x 16	20 x 5	20 x 10	20 x 20	20 x 50	32 x 5	32 x 10	32 x 20	32 x 32	
Max. rotational Speed		rev/min	5800			4200			3300		3000	2150	3000			
*Max. travel speed		m/s	0.49	0.97	0.35	0.70	1.12	0.28	0.55	1.10	2.50	0.18	0.50	1.00	1.60	
No Load Torque		Carriage: S	Nm	0.07	0.06	0.11	0.12	0.14	0.28	0.26	0.24	0.58	0.45	0.50	0.55	0.60
		Carriage: L	Nm	0.09	0.08	0.13	0.16	0.18	0.3	0.28	0.28	0.6	0.55	0.60	0.65	0.70
Lead constant		mm/rev	5	10	5	10	16	5	10	20	50	5	10	20	32	
Max. repeatability precision		ISO7	mm	± 0.02	±0.02	±0.02	±0.02	±0.02	±0.02	±0.02	±0.02	±0.02	±0.02	±0.02	±0.02	±0.02
		ISO 5	mm	± 0.01	±0.01	±0.01	±0.01	±0.01	±0.01	±0.01	±0.01	±0.01	±0.01	±0.01	±0.01	±0.01
Dynamic load capacity BS		Ca (N)	5000	3800	13150	11550	8170	14800	15900	16250	13000	18850	33400	29700	35150	
Max. axial load		Fx	5000	2540	8700	6730	4200	14800	13850	6930	2770	18850	29600	14800	9240	
Max. drive torque		Ma (Nm)	4.4 without keyway	4.5 without keyway	5.5 with keyway	5.5 with keyway, 7.7 without keyway	11.9 with keyway, 13.0 without keyway	11.9 with keyway, 24.5 without keyway	16.7 with keyway, 16.7 without keyway	27.3 with keyway, 52.3 without keyway						
Min. stroke		(mm)	30		40			55				65		70		
Max. acceleration		(m/s <sup>2</sup> )	20		20			20				20				

- 1 Max. travel speed depends of the length of the linear unit, see diagram for particular size of the linear unit.
- 2 The stated values are for strokes up to 500mm. No Load Torque value increases with stroke elongation.
- 3 For a ball nut with the pre load of 2%, please contact us.
- 4 For minimum strokes below the stated value in the table above, please contact us.

## Mass & Moment Of Inertia

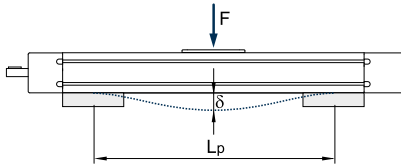


Series	Carriage length	Mass of linear unit*	ballscrew	Mass moment of inertia*	Planar moment of inertia*	
	Lv (mm)	(kg)	(d x l)	(10 <sup>-5</sup> kg *m <sup>2</sup> )	ly (cm <sup>4</sup> )	lz (cm <sup>4</sup> )
CTV 90 S	35	1.6 + 0.006 * Stroke (mm)	12 x 5	0.32 + 0.002 * Stroke (mm)	13.6	102.6
			12 x 10	0.38 + 0.002 * Stroke (mm)		
CTV 90 L	100	2.2 + 0.006 * Stroke (mm)	12 x 5	0.43 + 0.002 * Stroke (mm)	13.6	102.6
			12 x 10	0.53 + 0.002 * Stroke (mm)		
CTV 110S	39	3.3 + 0.008 * Stroke (mm)	16 x 5	0.70 + 0.005 * Stroke (mm)	29.1	196.0
			16 x 10	0.82 + 0.005 * Stroke (mm)		
			16 x 16	1.07 + 0.005 * Stroke (mm)		
CTV 110 L	124	4.6 + 0.008 * Stroke (mm)	16 x 5	1.19 + 0.005 * Stroke (mm)	29.1	196.0
			16 x 10	1.45 + 0.005 * Stroke (mm)		
			16 x 16	1.99 + 0.005 * Stroke (mm)		
CTV 145 S	49	5.7 + 0.015 * Stroke (mm)	20 x 5	3.04 + 0.013 * Stroke (mm)	85.3	682.3
			20 x 10	3.27 + 0.013 * Stroke (mm)		
			20 x 20	4.17 + 0.013 * Stroke (mm)		
			20 x 50	10.50 + 0.013 * Stroke (mm)		
CTV 145 L	149	8.4 + 0.015 * Stroke (mm)	20 x 5	4.43 + 0.013 * Stroke (mm)	85.3	682.3
			20 x 10	4.92 + 0.013 * Stroke (mm)		
			20 x 20	6.91 + 0.013 * Stroke (mm)		
			20 x 50	20.79 + 0.013 * Stroke (mm)		
CTV 200 S	80	15.4 + 0.031 * Stroke (mm)	32 x 5	21.17 + 0.069* Stroke (mm)	417.4	3007.3
			32 x 10	21.76 + 0.069* Stroke (mm)		
			32 x 20	24.12 + 0.069* Stroke (mm)		
			32 x 32	29.04 + 0.069* Stroke (mm)		
CTV 200 L	255	23.8 + 0.031 * Stroke (mm)	32 x 5	33.41 + 0.069* Stroke (mm)	427.4	3007.3
			32 x 10	34.59 + 0.069* Stroke (mm)		
			32 x 20	39.31 + 0.069* Stroke (mm)		
			32 x 32	49.12 + 0.069* Stroke (mm)		

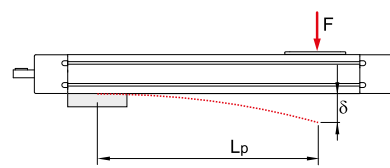
\* Mass calculation doesn't include mass of motor, reduction gear, switches and clamps.

# Deflection of Linear Unit

**Fixed-fixed mounting**



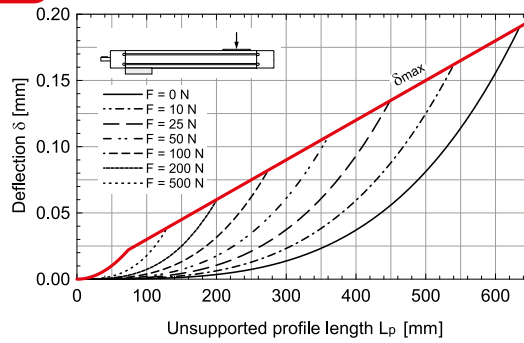
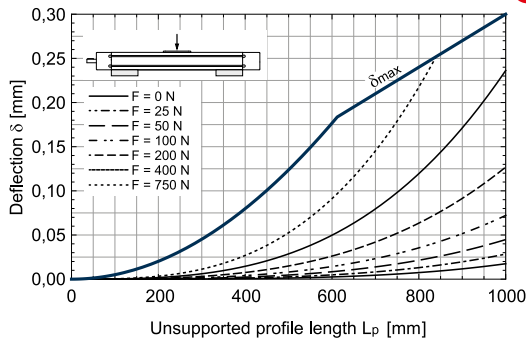
**Fixed-free mounting**



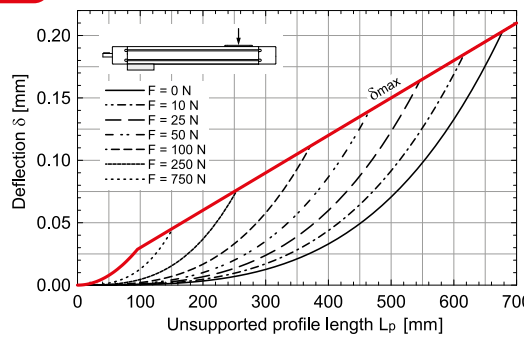
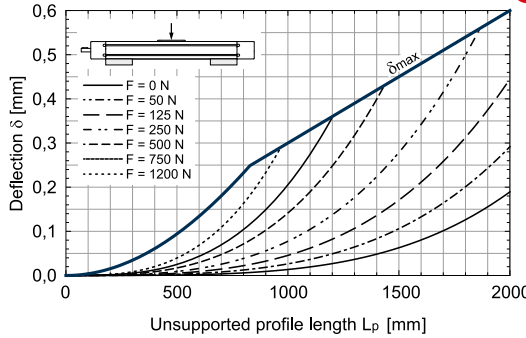
$\delta$  Maximum deflection of the linear unit [mm]  
 $\delta_{max}$  Maximum permissible deflection of the linear unit [mm] F Applied force [N]  
 $L_p$  Unsupported profile length [mm]

The maximum permissible deflection  $\delta_{max}$  must not be exceeded. In the case that maximum deflection  $\delta$  exceeds the maximum permissible deflection  $\delta_{max}$ , additional profile supports are needed.

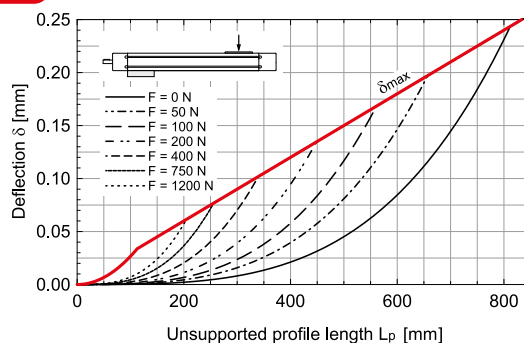
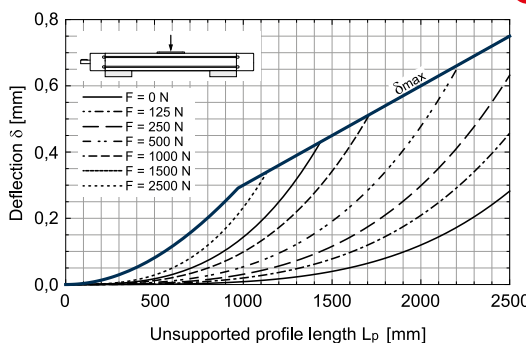
**CTV 90**



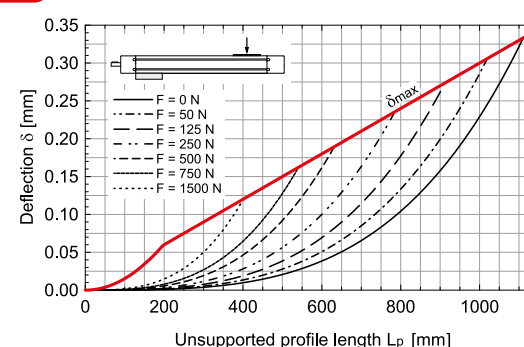
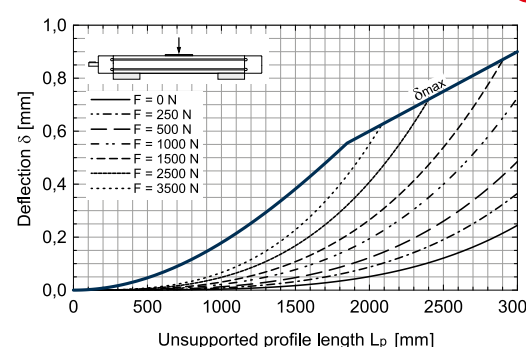
**CTV 110**



**CTV 145**

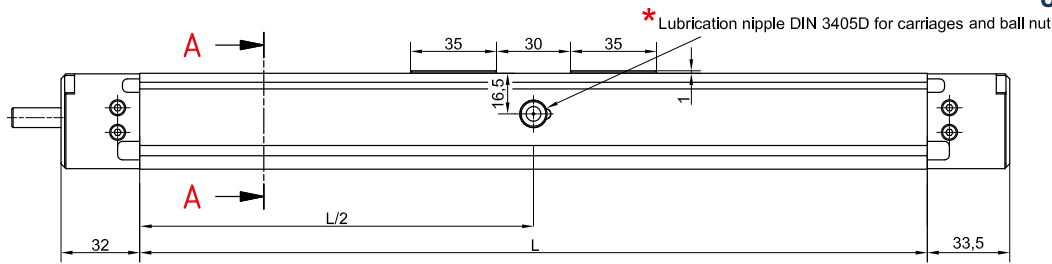


**CTV 200**



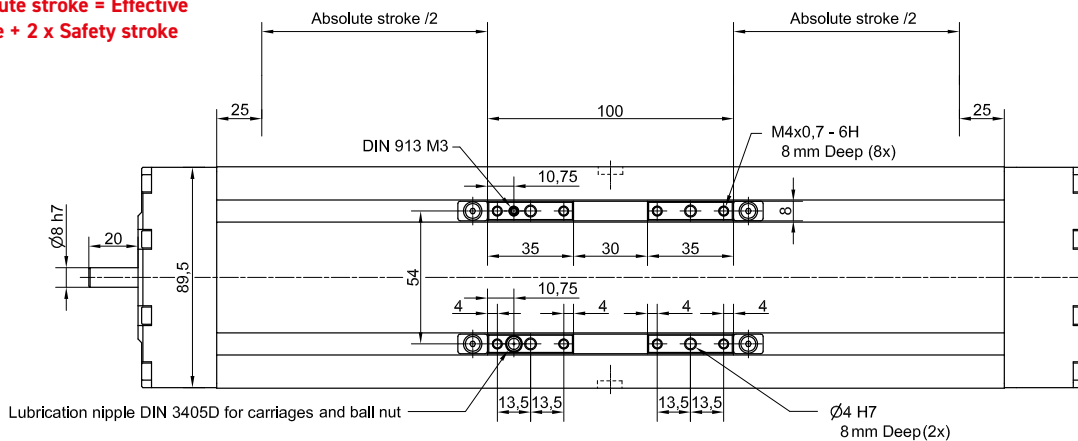
## CTV 90 Series Dimensions

Unit mm



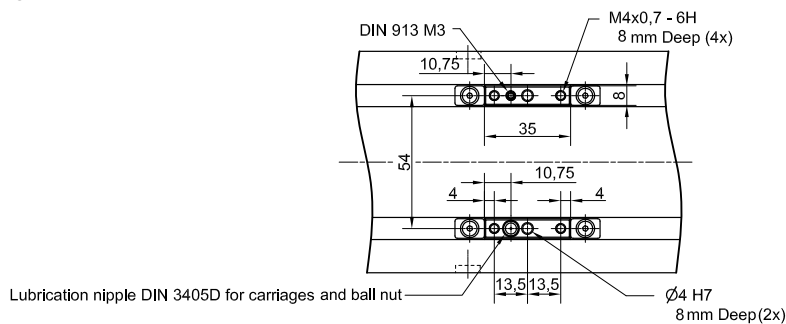
- i** Linear Unit doesn't include safety stroke.  
Absolute stroke = Effective stroke + 2 x Safety stroke

### LONG CARRIAGE



- \* Lubrication port position:  
Long carriage: L/2  
Short carriage: L/2 - 24.2 mm

### SHORT CARRIAGE

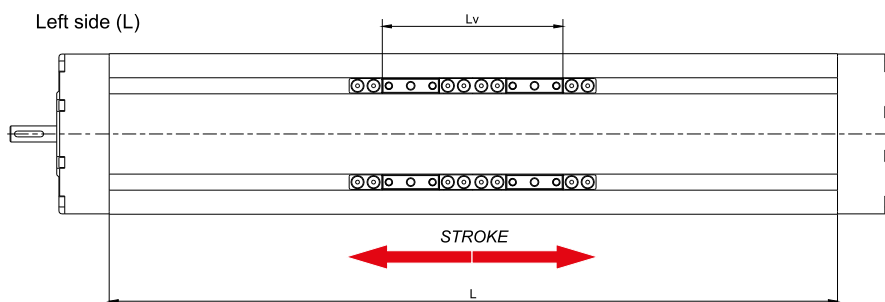


## Defining of the linear unit length

### Single Carriage

$$L = \text{Effective stroke} + 2 \times \text{Safety stroke} + L_v + 50 \text{ mm}$$

$$L_{\text{total}} = L + 65.5 \text{ mm}$$

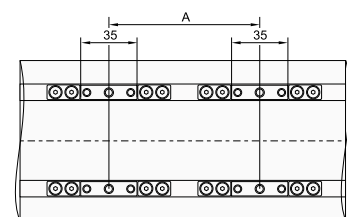


Right side (R)

- Lv - long carriage = 100mm
- Lv - short carriage = 35mm

### Double Carriage

\* Only with short carriage version



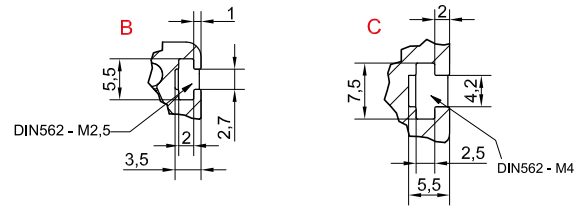
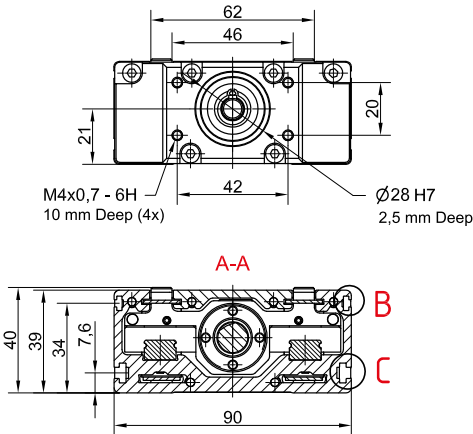
\* For ordering code please contact us

$$L = \text{Effective stroke} + 2 \times \text{Safety stroke} + A + 85 \text{ mm}$$

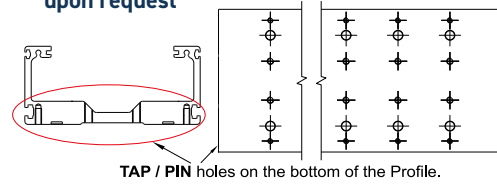
$$L_{\text{total}} = L + 65.5 \text{ mm}$$

A > 65mm

Unit mm



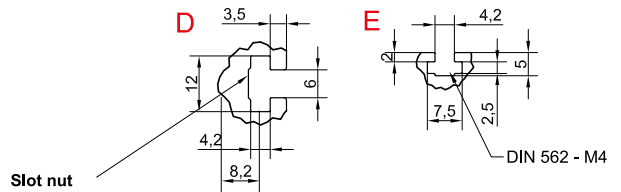
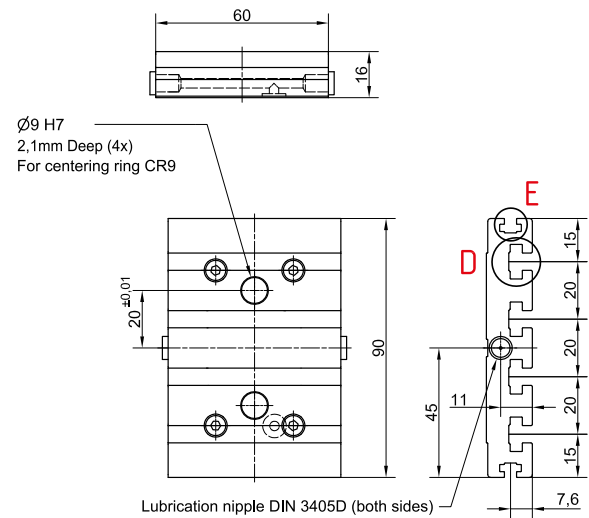
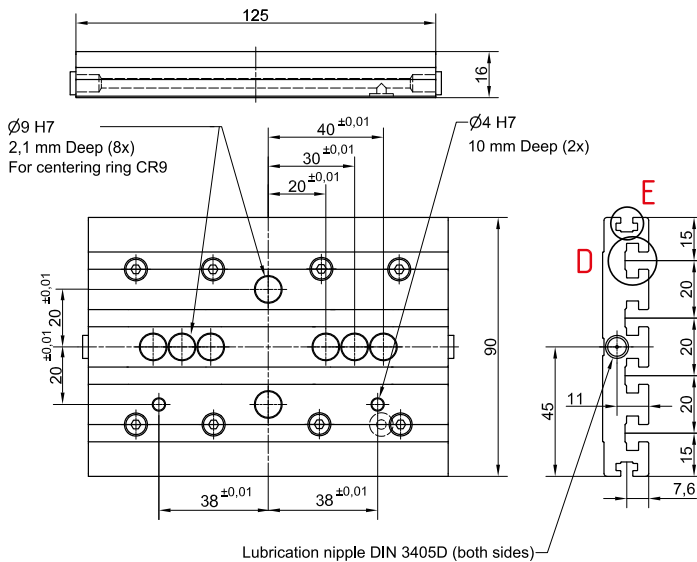
Tap/ Pin holes are available upon request



## Connection Plate

CTV 90 L

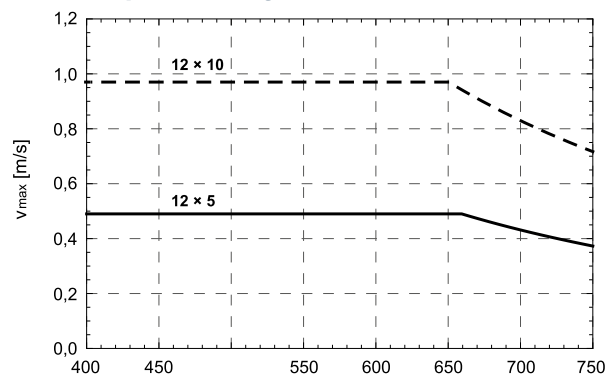
CTV 90 S



Linear Unit	Plate Length (mm)	Weight (kg)	Code
CTV 90 S	60	0.21	46906
CTV 90 L	125	0.44	46907

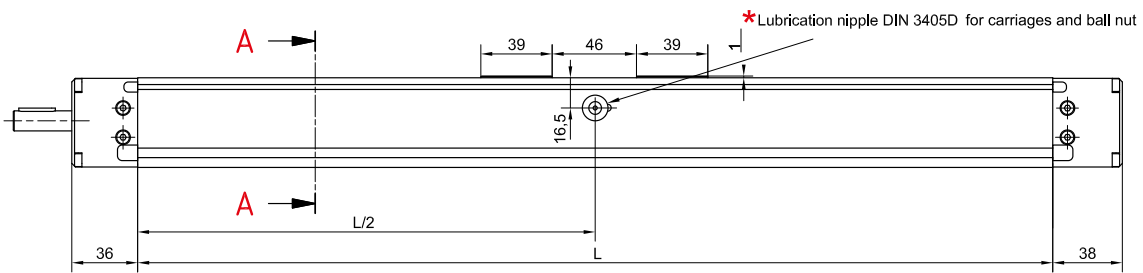
\* Mounting elements for mounting the connection plate on the Linear Unit are included.

Maximum travel speed as a function of the profile length (Vmax - L curves)

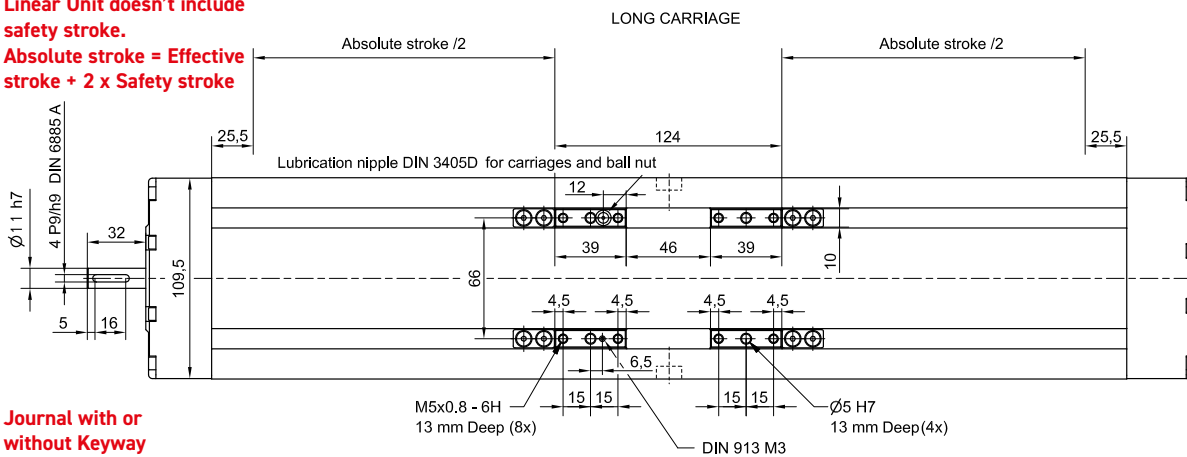


# CTV 110 Series Dimensions

Unit mm

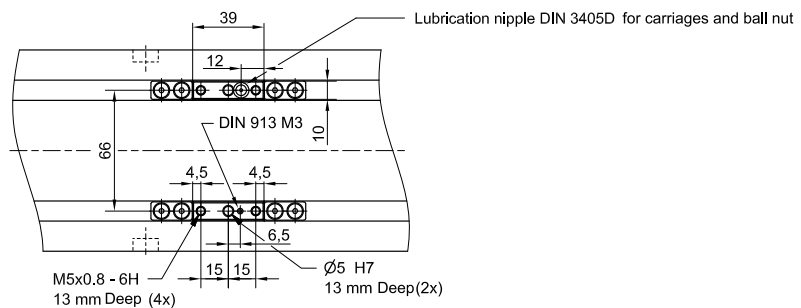


**i** Linear Unit doesn't include safety stroke.  
Absolute stroke = Effective stroke + 2 x Safety stroke



**i** Journal with or without Keyway

### SHORT CARRIAGE



\* Lubrication port position:  
Long carriage: L/2  
Short carriage: L/2 - 39 mm

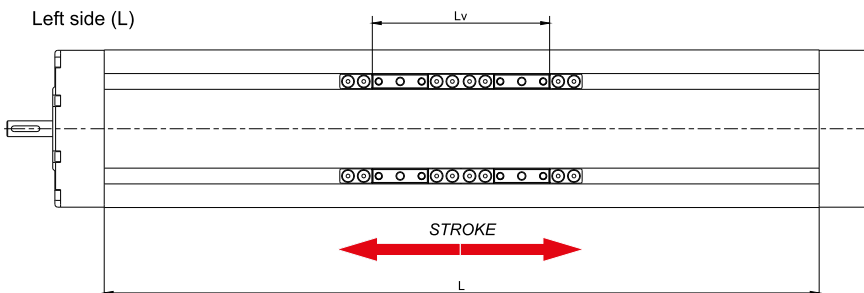
## Defining of the linear unit length

### Single Carriage

$$L = \text{Effective stroke} + 2 \times \text{Safety stroke} + L_v + 51 \text{ mm}$$

$$L_{\text{total}} = L + 74 \text{ mm}$$

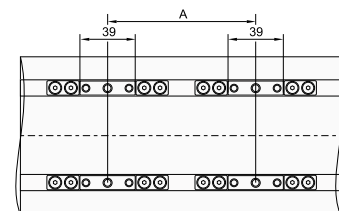
Left side (L)



L<sub>v</sub> - long carriage = 124mm  
L<sub>v</sub> - short carriage = 39mm

### Double Carriage

\* Only with short carriage version



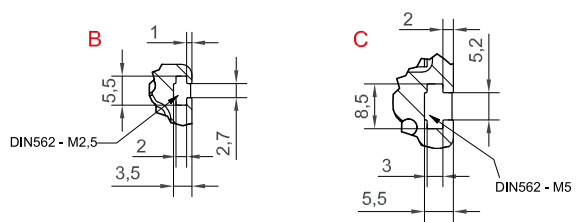
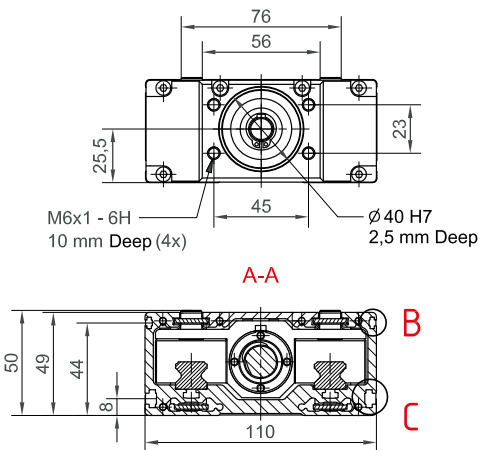
\* For ordering code please contact us

$$L = \text{Effective stroke} + 2 \times \text{Safety stroke} + A + 90 \text{ mm}$$

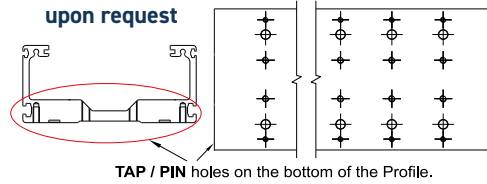
$$L_{\text{total}} = L + 74 \text{ mm}$$

A > 85mm

Unit mm

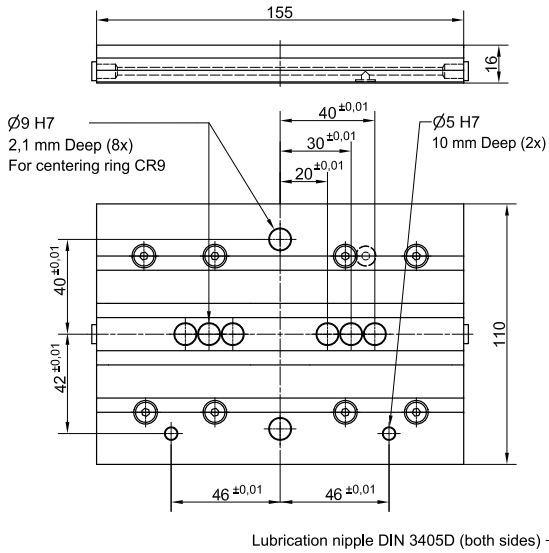


Tap/ Pin holes are available upon request

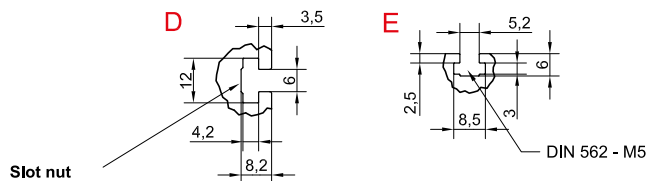
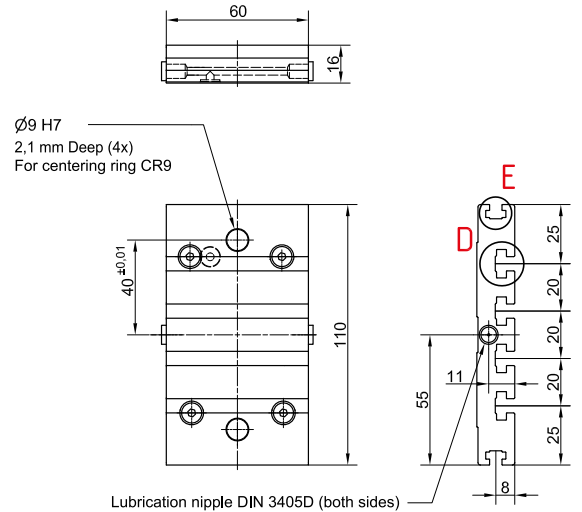


## Connection Plate

### CTV 110 L



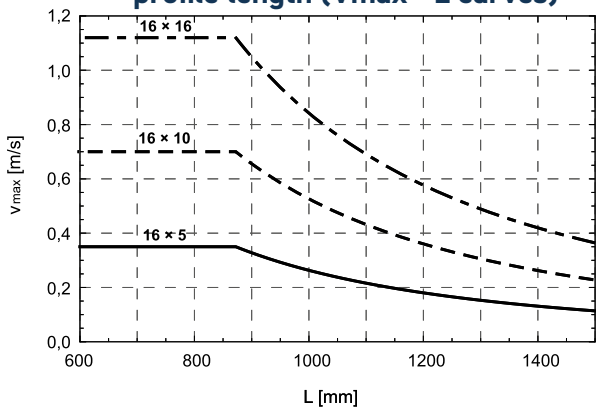
### CTV 110 S



Linear Unit	Plate Length (mm)	Weight (kg)	Code
CTV 110 S	60	0.37	48348
CTV 110 L	155	0.74	48349

\* Mounting elements for mounting the connection plate on the Linear Unit are included.

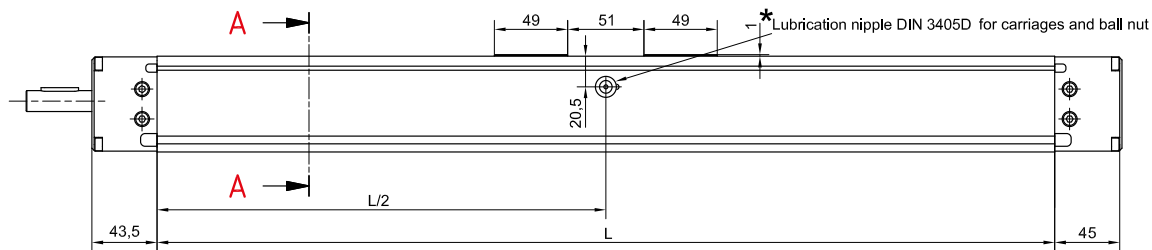
### Maximum travel speed as a function of the profile length (Vmax - L curves)



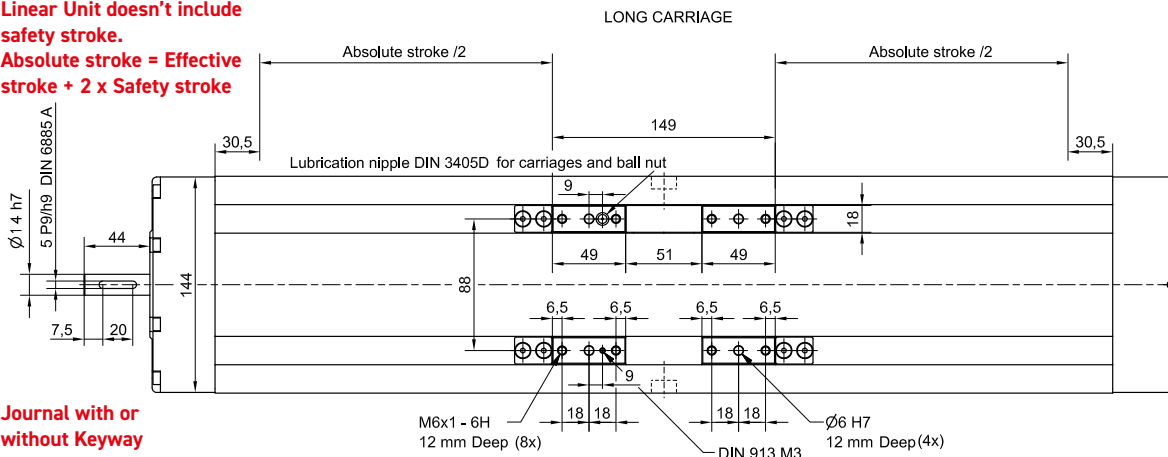


# CTV 145 Series Dimensions

Unit mm

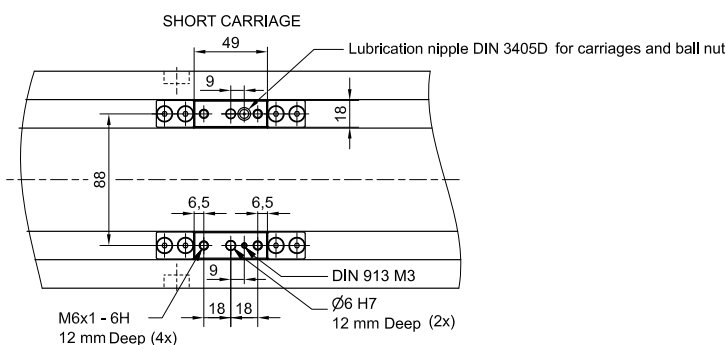


**i** Linear Unit doesn't include safety stroke.  
**Absolute stroke = Effective stroke + 2 x Safety stroke**



**i** Journal with or without Keyway

**\*** Lubrication port position:  
Long carriage: L/2  
Short carriage: L/2 - 46 mm



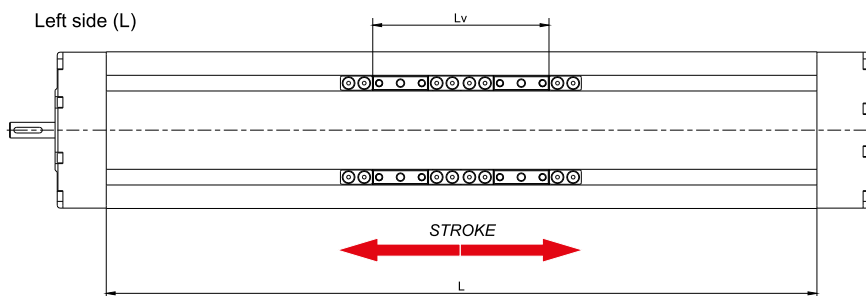
## Defining of the linear unit length

### Single Carriage

$$L = \text{Effective stroke} + 2 \times \text{Safety stroke} + L_v + 61\text{mm}$$

$$L_{\text{total}} = L + 88.5 \text{ mm}$$

Left side (L)

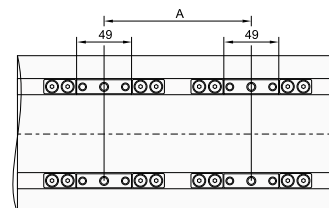


Right side (R)

$L_v$  - long carriage = 149mm  
 $L_v$  - short carriage = 49mm

### Double Carriage

\* Only with short carriage version



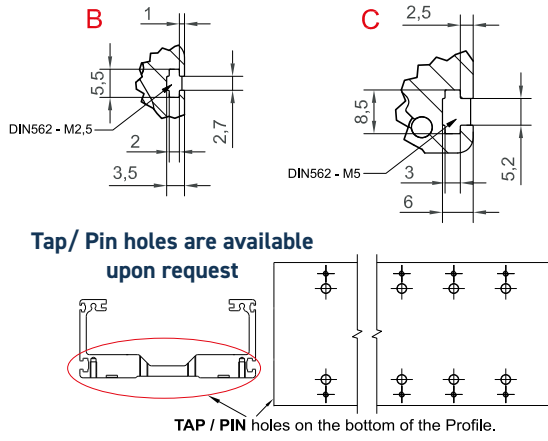
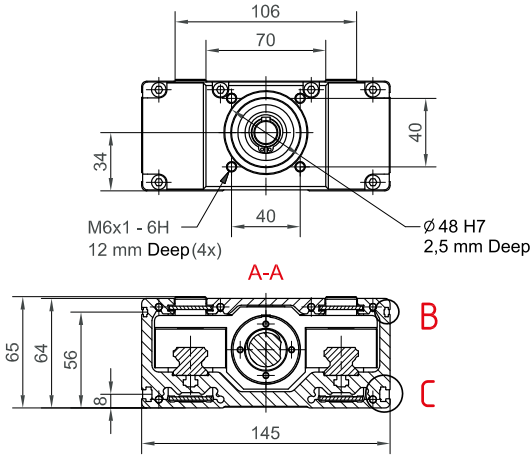
\* For ordering code please contact us

$$L = \text{Effective stroke} + 2 \times \text{Safety stroke} + A + 110\text{mm}$$

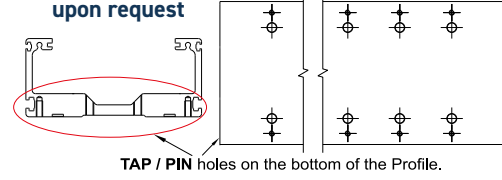
$$L_{\text{total}} = L + 88.5 \text{ mm}$$

$A \geq 100\text{mm}$

Unit mm

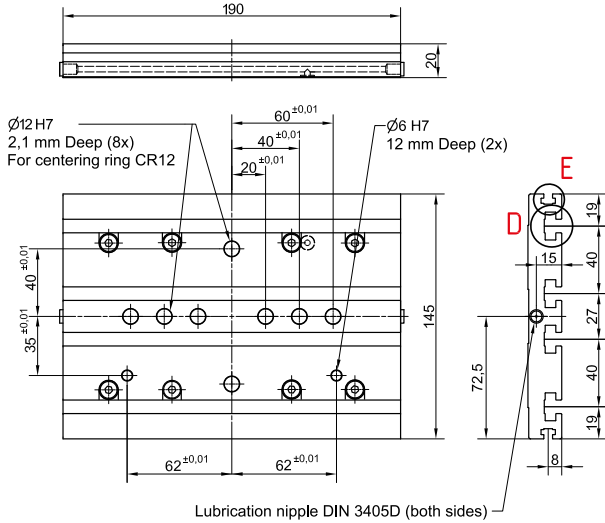


Tap/ Pin holes are available upon request

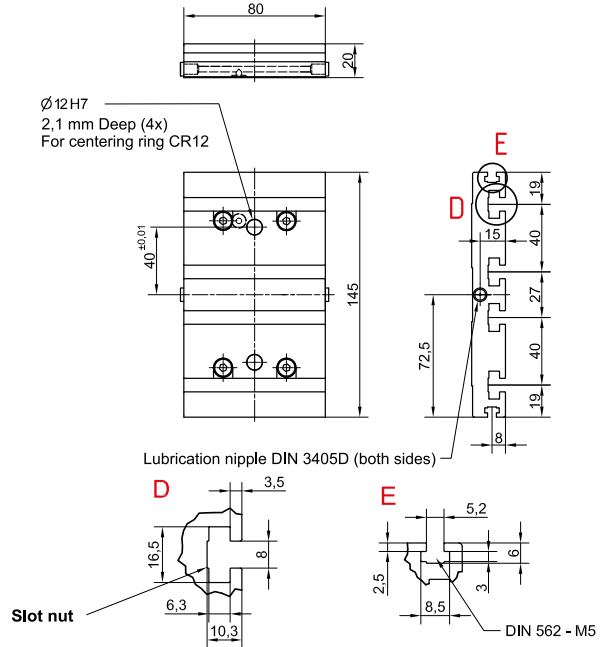


## Connection Plate

### CTV 145 L

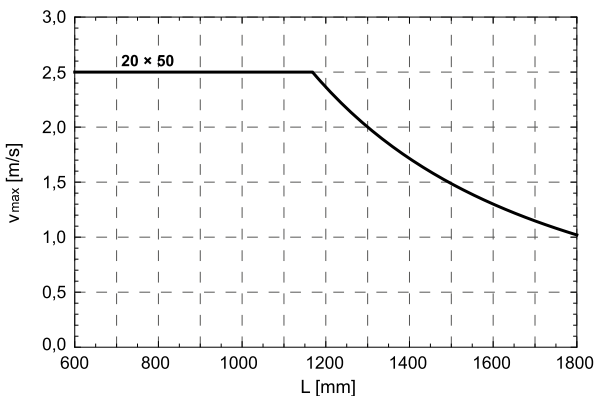


### CTV 145 S

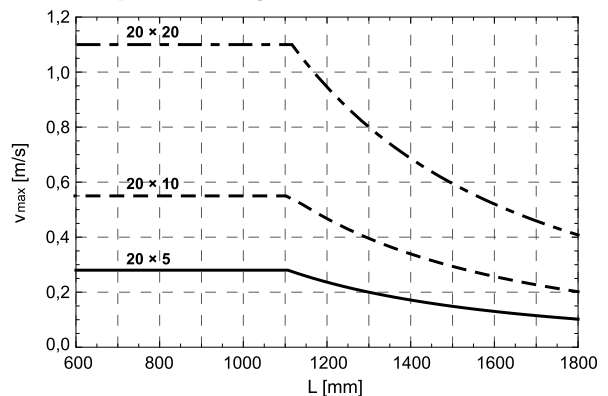


Linear Unit	Plate Length (mm)	Weight (kg)	Code
CTV 145 S	80	0.78	48351
CTV 145 L	190	1.54	48350

\* Mounting elements for mounting the connection plate on the Linear Unit are included.

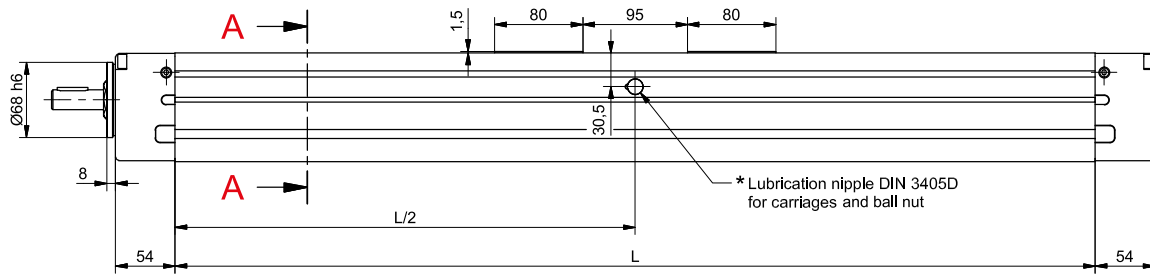


### Maximum travel speed as a function of the profile length ( $V_{max}$ - L curves)



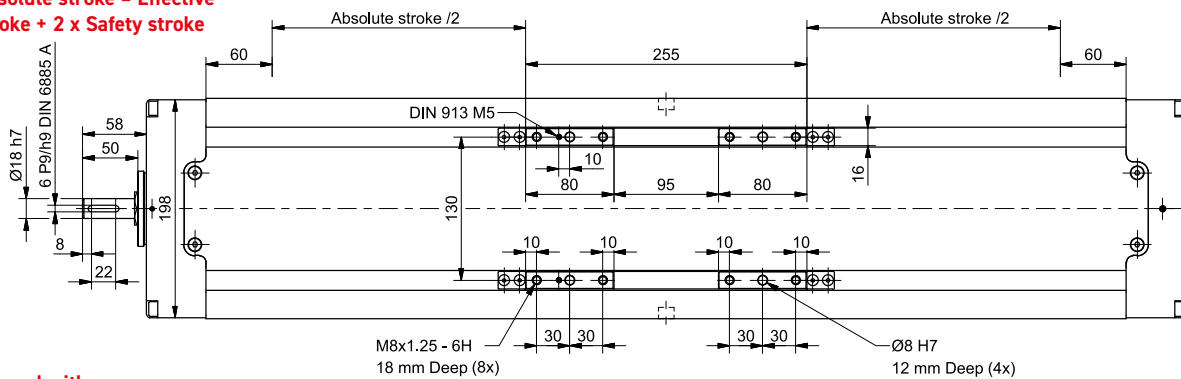
## CTV 200 Series Dimensions

Unit mm



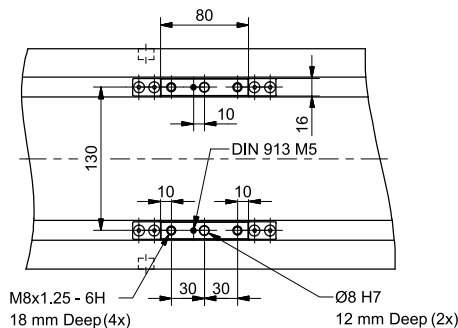
**i** Linear Unit doesn't include safety stroke.  
Absolute stroke = Effective stroke + 2 x Safety stroke

### LONG CARRIAGE



**i** Journal with or without Keyway

### SHORT CARRIAGE



\* Lubrication port position:  
Long carriage: L/2  
Short carriage: L/2 - 53 mm

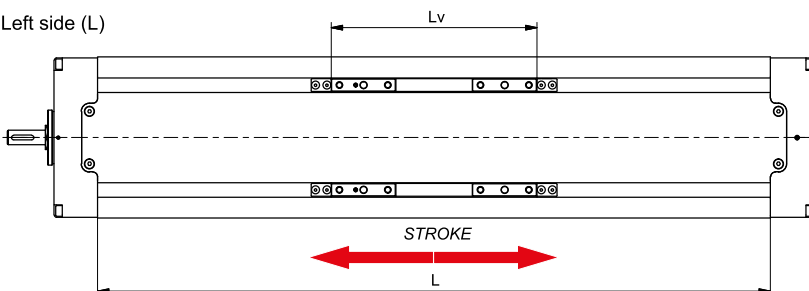
## Defining of the linear unit length

### Single Carriage

$$L = \text{Effective stroke} + 2 \times \text{Safety stroke} + L_v + 120\text{mm}$$

$$L_{\text{total}} = L + 108 \text{ mm}$$

Left side (L)

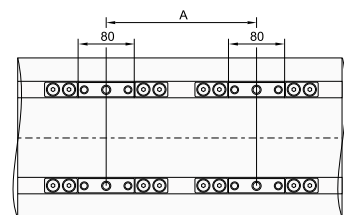


Right side (R)

$L_v$  - long carriage = 255 mm  
 $L_v$  - short carriage = 80 mm

### Double Carriage

\* Only with short carriage version



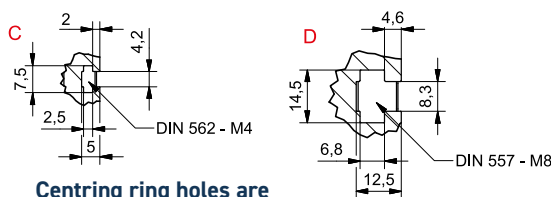
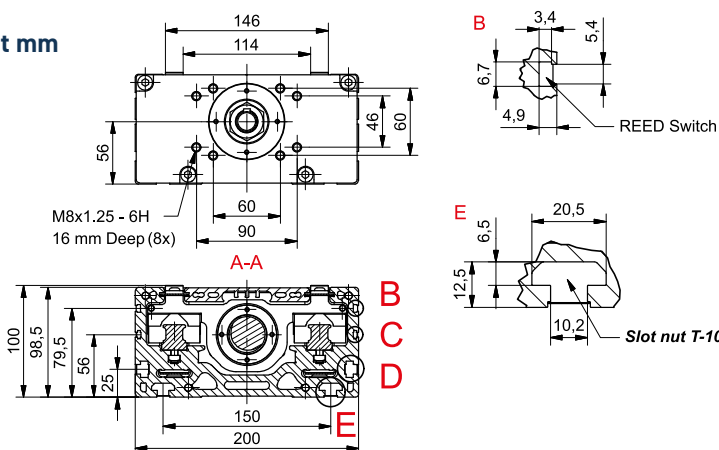
\* For ordering code please contact us

$$L = \text{Effective stroke} + 2 \times \text{Safety stroke} + A + 200 \text{ mm}$$

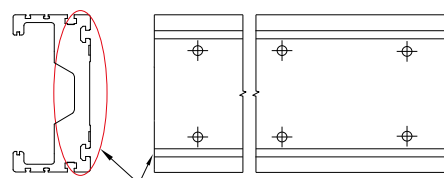
$$L_{\text{total}} = L + 108 \text{ mm}$$

$A \geq 100\text{mm}$   
 $*A \geq 195\text{mm}$   
\* When using connection plates

Unit mm



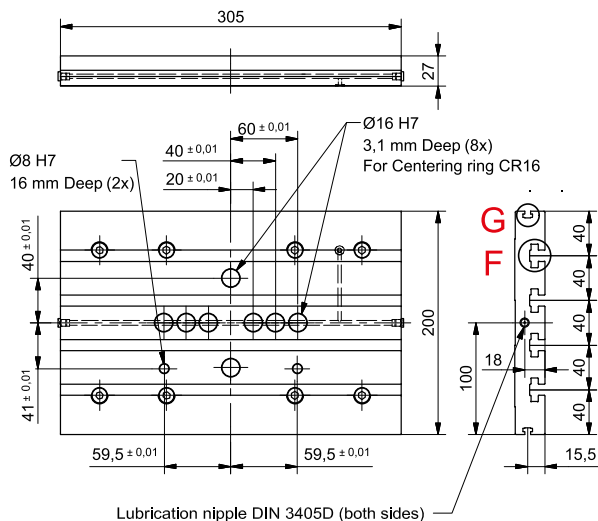
Centering ring holes are available upon request



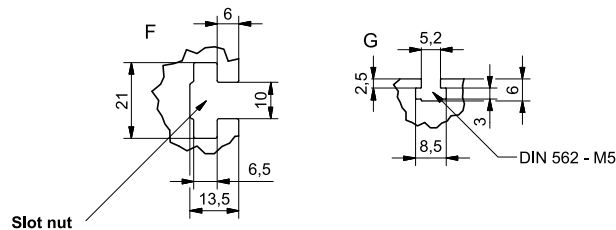
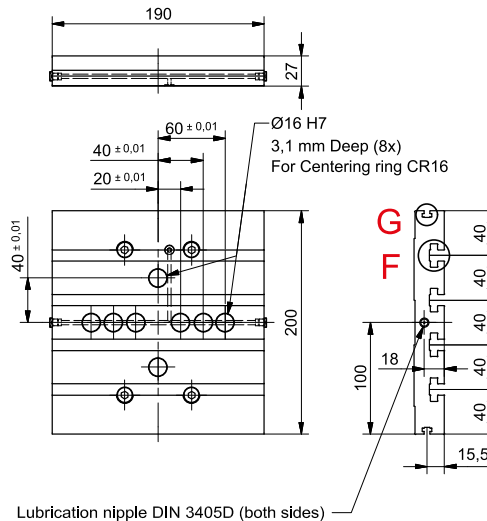
CENTERING RING holes on the bottom of the Profile.

## Connection Plate

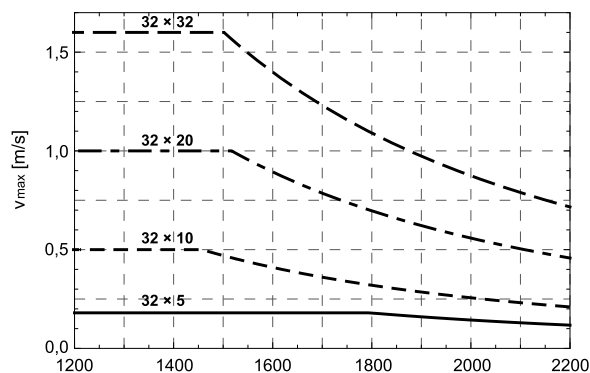
### CTV 200 L



### CTV 200 S



## Maximum travel speed as a function of the profile length (Vmax - L curves)



Linear Unit	Plate Length (mm)	Weight (kg)	Code
CTV 200 S	190	2.32	66669
CTV 200 L	305	3.75	66657

\* Mounting elements for mounting the connection plate on the Linear Unit are included.

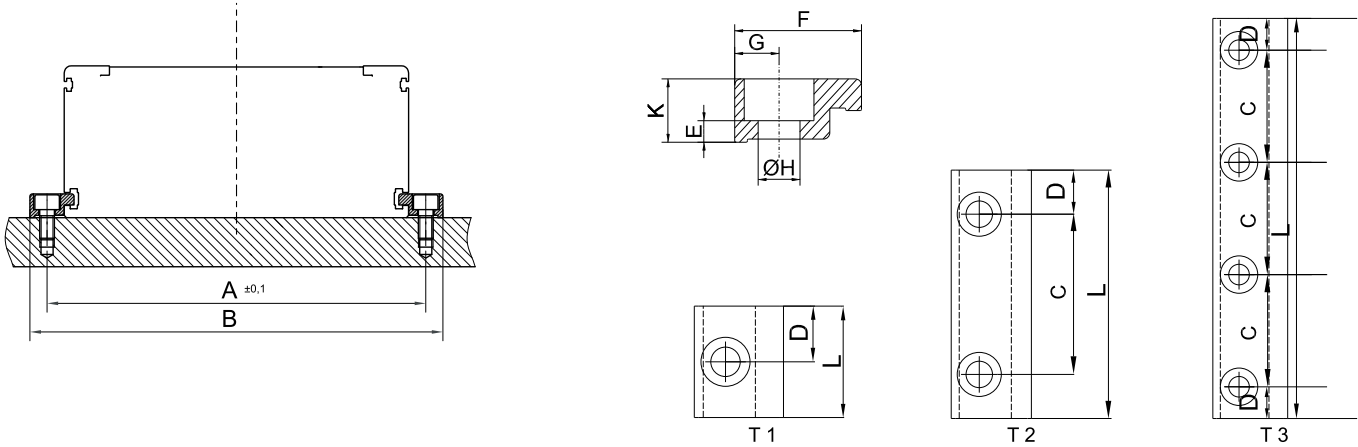
## CTV Series Order Example

Code: **CTV** **110** **1610** - **ISO7** - **1** - **1000** - **L** - **1** - **1**  
 Options: 1 2 3 4 5 6 7 8 9

Options		Selection			
1	Series	CTV			
2	Size	90	110	145	200
3	Ballscrew	Ø12x5, Ø12x10	Ø16x5, Ø16x10, Ø16x16	Ø20x5, Ø20x10, Ø20x20 Ø20x50	Ø32x5, Ø32x10, Ø32x20, Ø32x32
4	Ballscrew Tolerance	ISO7 (Standard) ISO5			
5	Ballscrew Journal	0: Without Keyway	0: Without Keyway 1: With Keyway		
6	Absolute Stroke	Absolute Stroke= Effective stroke + 2 x Safety Stroke			
7	Carriage Version	S : Short   L : Long			
8	Connection Plate	0: Without 1: With			
9	Protection Cover	0: No Cover 1 : With Antistatic PU Gap-Type Seal Strip (Standard) 2 : With Corrosion-Resistant Protection Strip			

## CTV Accessories

### Mid Section Mounting



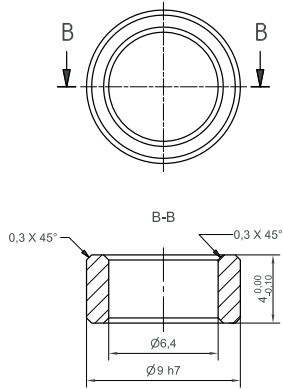
Linear Unit	Type	Dimensions (mm)										Screw	Countersink for	Weight (kg)	Code
		A	B	C	D	L	E	F	G	ØH	K				
CTV 90	T1	102	112	—	12.5	25	4.5	15	5	4.5	9	M4	DIN 912	0.01	46994
CTV 90	T2	102	112	40	11	62	4.5	15	5	4.5	9	M4	DIN 912	0.02	48636
CTV 90	T3	102	112	20	8.5	77	4.5	15	5	4.5	9	M4	DIN 912	0.025	47163
CTV 90	T3	102	112	25	6	87	4.5	15	5	4.5	9	M4	DIN 912	0.028	55261
CTV 90	T3	102	112	30	8.5	107	4.5	15	5	4.5	9	M4	DIN 912	0.031	55638
CTV 110	T1	126	140	—	12.5	25	3.4	20	7	6.6	10	M6	DIN 912	0.01	48642
CTV 110	T2	126	140	40	11	62	3.4	20	7	6.6	10	M6	DIN 912	0.03	48643
CTV 110	T3	126	140	20	8.5	77	4.5	20	7	5.5	10	M5	DIN 912	0.03	48640
CTV 110	T3	126	140	30	8.5	107	4.5	20	7	5.5	10	M5	DIN 912	0.045	46995
CTV 110	T3	126	140	40	11	142	3.4	20	7	6.6	10	M6	DIN 912	0.056	55260
CTV 145	T1	161	175	—	12.5	25	3.4	20	7	6.6	10	M6	DIN 912	0.01	48642
CTV 145	T2	161	175	40	11	62	3.4	20	7	6.6	10	M6	DIN 912	0.03	48643
CTV 145	T3	161	175	20	8.5	77	4.5	20	7	5.5	10	M5	DIN 912	0.03	48640
CTV 145	T3	161	175	30	8.5	107	4.5	20	7	5.5	10	M5	DIN 912	0.045	46995
CTV 145	T3	161	175	40	11	142	3.4	20	7	6.6	10	M6	DIN 912	0.056	55260
CTV 200	T2	222	240	40	19	78	14.8	29	9	8.5	27.5	M8	DIN 912	0.110	53049
CTV 200	T2	222	240	50	19	88	14.8	29	9	8.5	27.5	M8	DIN 912	0.120	53050
CTV 200	T2	222	240	70	19	108	16.3	29	9	8.5	27.5	M8	DIN 912	0.160	53051

### Recommended number of mounting fixtures

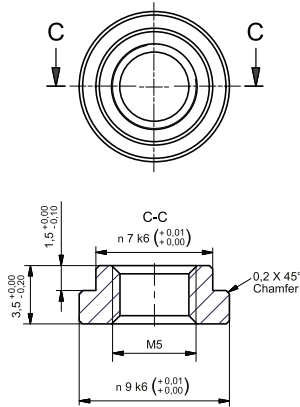
T1	6 pieces per metre, per side
T2	3 pieces per metre, per side
T3	3 pieces per metre, per side

**Centring Rings**

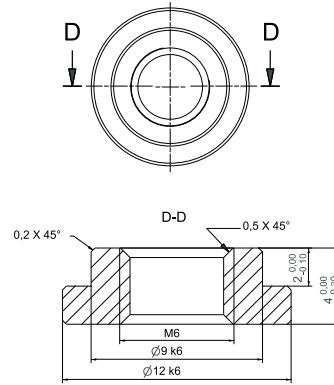
**CR 9**



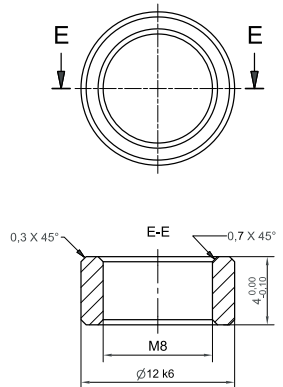
**CR 7 / 9**



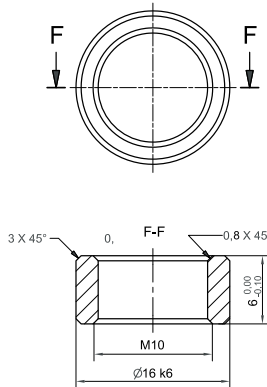
**CR 9 / 12**



**CR 12**



**CR 16**



Type	Compatible with	Code
CR 9	CTV/CTJ: 90, 110	75114
CR 7/9	CTV/CTJ: 90, 110	23331
CR 9/12	CTV/CTJ: 90, 110, 145	48885
CR12	CTV/CTJ: 145	49049
CR16	CTV/CTJ: 200	53023

**Slot Nuts**



**DIN 526**



**DIN 557**



**T Nut**

Code	Nut Type	CTV 90 CTJ 90	CTV 110 CTJ 110	CTV 145 CTJ 145	CTV 200 CTJ 200
41609	DIN562 - M2.5	X	X	X	
40682	DIN562 - M4	X			X
40768	DIN562 - M5		X	X	
44451	DIN557 - M8				X
5551	Slot Nut T-10-M8				X
5552	Slot Nut T-10-M6				X
5553	Slot Nut T-10-M5				X
5570	Slot N. T-10-M8 L=90				X

**Connection Plate Nuts**

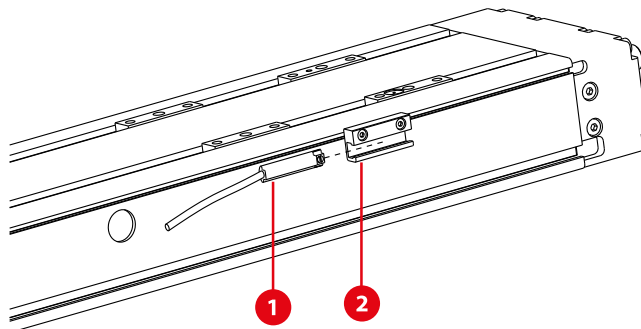
Code	Nut Type	CTV 200 CTJ 200
5551	Slot Nut T-10-M8	X
5552	Slot Nut T-10-M6	X
5553	Slot Nut T-10-M5	X
5570	Slot Nut T-10-M8 L=90	X

Code	Nut Type	CTV 145 CTJ 145
5704	Slot Nut 8LM4	X
5703	Slot Nut 8LM5	X
5702	Slot Nut 8LM6	X
5701	Slot Nut 8LM8	X

Code	Nut Type	CTV 110 CTJ 110	CTV 90 CTJ 90
48887	Slot Nut 6LM4	X	X
48888	Slot Nut 6LM5	X	X

## Magnetic Field Sensors

1	Magnetic Field Sensor
2	Sensor Holder



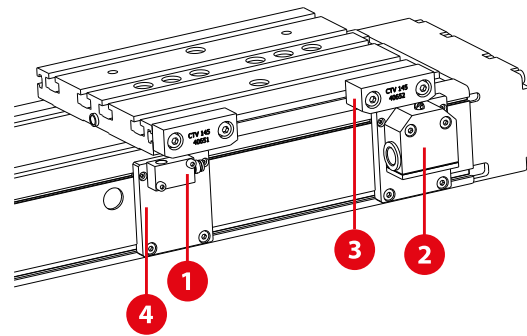
SMT-65TP-K NO/ NC	Code	Type	Compatibility	
	43851	HOM Sensor holder	CTV90 , CTV110, CTV145	
	74073	SMT-6STP-K NC	CTV: 200	
	77075	SMT-6STP-K NC + HOM	CTV90, CTV110, CTV145,	
	74074	SMT-6STP-K NO	CTV: 200	
	77076	SMT-6STP-K NO + HOM	CTV90, CTV110, CTV145	
<b>Extension cable with connector</b> 	8146	Extension Cable length 2m - Straight connector		
	8147	Extension Cable length 5m - Straight connector		
	9017	Extension Cable length 2m - Angled connector		
	9019	Extension Cable length 5m - Angled connector		

Technical Data	SMT-65TP-K NC	SMT-65TP-K NO
Sensor Type	GMR sensor	GMR sensor
Switching function	NC	NO
Output	PNP	PNP
Operating voltage	10 ~ 28 V DC	10 ~ 28 V DC
Switching Current	200 mA max.	200 mA max.
Power rating	5.5 W max.	5.5 W max.
Voltage Drop	1.5 V / 200mA max.	1.5 V / 200 mA max.
Current Consumption	10 mA/ 24 V max.	10 mA/ 24 V max.
Switching Frequency	1000 Hz	1000 Hz
Ambient temperature	-10 ~ +70°C	-10 ~ +70°C
Shock Vibration	50 G / 9 G	50 G / 9 G
Protection class	IP 67	IP 67
LED indicator	Yellow	Yellow
Electrical connection	M8. 3-pin	M8. 3-pin
Cable material length	PU - 0.3 m	PU - 0.3 m
Extension cable	Energy chain compliant	Energy chain compliant

Belt Driven Actuators  
Series  
MTB  
Series  
MTE  
Series  
MTS  
Series  
MTZ  
Series  
MTF  
Series  
CTJ  
Series  
Ball screw Actuators  
Series  
MTV  
Series  
CTV  
Series  
PNCE  
Series  
Automation Components



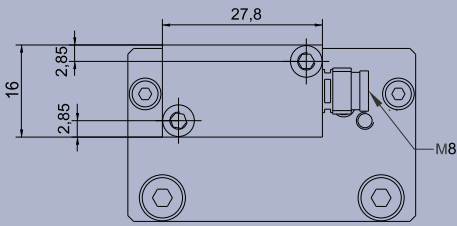
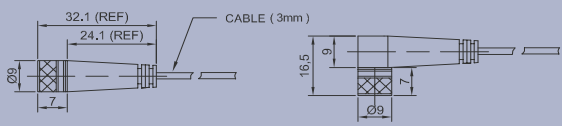
1	Induction Switch
2	Mechanical Switch
3	Activation Block
4	Switch Holder

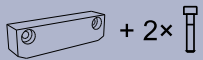
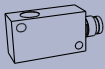
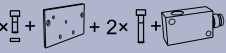

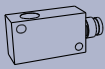
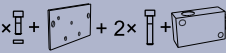

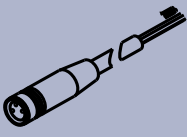



**MS - Mechanical Switch**

Technical Data	SMT-65TP-K NC	SMT-65TP-K NO
	Protection class IEC 60529	IP67
	Ambient temperature	-5°C ~ +80°C
	Operating point accuracy	± 0.05 mm
	Approach speed max.	45 m/min
	Approach speed min.	0.01 m/min
	Switching contact	1 changeover
	Switching principle	Snap-action
	Rated voltage	250 V AC
	Switching current, min. at	10 mA
	Switching voltage	24 V DC
Cable entry	M12 X 1.5	

Ordering Codes	CTV 90	CTV 110	CTV 145	CTV 200
+ 2× Activation block with fixing screws	49032	49031	40652	40652
 Mechanical switch only	47921			
2× + 2× + 2× + Mechanical switch with mounting elements	49034	49033	47939	53055

Technical Data		
	Sensor Type	PNP
	Switching function	NC / NO
	Rated voltage	10 - 30 V DC
	Switching Current	150mAmax.
	Ambient temperature	-25°C ...+70°C
	Switching Frequency	800 Hz max.
	Voltage Drop	3,5 V
	Protection class	IP 67
	Electrical connection	M8, 3-pin
	Extension cable	Energy chain compliant - bending radius 75 mm
	Cable material-length	PU
	Cable length	2m / 5m
Cable length	M8, 3-pin Straight or Angled connector	

Ordering Codes	CTV 90	CTV 110	CTV 145	CTV 200
 + 2x	49032	49031	40652	40652
 <b>PNP NO</b> Inductive switch Only	40671			
2x  + 2x 	49039	49038	48058	53054
 <b>PNP NC</b> Inductive switch Only	43570			
2x  + 2x 	49037	49036	47850	53052
	Extension cable length 2m Straight Connector			8146
	Extension cable length 5m Straight Connector			8147
	Extension cable length 2m Angled Connector			9017
	Extension cable length 5m Angled Connector			9019