tension hook 12702

counter catch hook 12703

chain 12705

12700

Material

Alloy steel.
Set contents:
1 x tension hook,
1 x take-up hook,
1 x clamp chain protection set,
.W0112 (2 x 492mm, 1 x 238mm, 1 x 15,9mm),
.W0116 (1x991mm, 1x229mm, 1x483, 1x25mm),
4 x split chain links,
6 x plastic protectors (to protect the work-piece),

1 x chain clamp protection lanyard.

Note: M20 and M24 clamp sets only have 3 chain lengths.

Technical Notes

For clamping valves, flanges, pump cases etc - can be used on fixture sub-plates or machine tables. The clamping force is generated by the eccentric shaft, and the force is determined by the take-up which is adjusted using the knurled screw. Please order T-nuts no. 24000 separately if

required.

Tips

The even distribution of the clamping force reduces workpiece deformation. The work-pieces are protected from marking of the chain by plastic protectors which are locked into the chain segments. Chains enable a large range of adjustment. See table opposite for details for achievable clamping forces.

Order No.	Size	For T-slot	Combined chain length max.	d_1	h_1 min.	h_1 max.	h_2 min.	h_2 max.	h_3	h_4	Weight g
12700.W0112	12	14, 16 of 18	1302	M12	83	108.0	100	118	18	18	853
12700.W0116	16	18, 20, 22 or 24	1829	M16	110	146.0	122	153	25	25	1902
12700.W0120	20	22 to 28	4940	M20	162	205.5	195	250	41	41	6037
12700.W0124	24	28 to 36	4940	M24	166	209.0	199	260	41	41	6040

| Order No.	h_5	l_1	l_2	l_3	Permissible torque Nm max.	w_1	w_2	w_4	A/F	Stroke s_1	Clamp stroke s_2	Clamping force kN max.
12700.W0112	8	50	34	54	45	34	47	21	36	25.0	18	15
12700.W0116	10	64	44	70	90	37	62	29	46	36.0	31	40
12700.W0120	10	91	64	98	190	58	86	48	65	43.5	55	75
12700.W0124	10	91	64	98	300	58	86	48	65	43.0	61	120
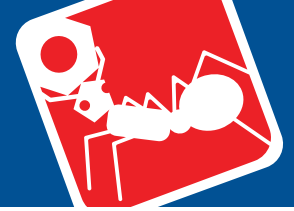
chain clamping:
even distribution of clamping force-
little workpiece deformation.
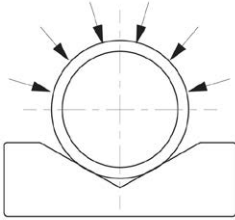
existing methods:
workpiece deformation caused by
pressure at a single clamping point.

Wixroyd
AN ESSENTRA COMPANY

wixroyd.com
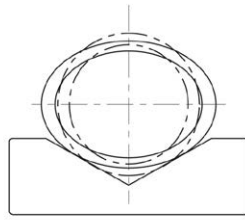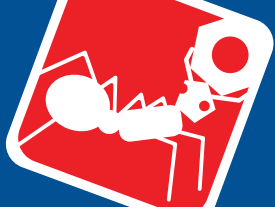
CHAIN CLAMPING

Our comprehensive range of clamping elements includes a compact and powerful workpiece clamping element, the chain clamping set no. 12700. This set was specifically designed for clamping large workpieces with round or arched surfaces.

Due to an increase in the bearing surface of the chain, the clamping force is distributed across the workpiece thereby reducing deformation.

Setting Up

1. **Attach the hook unit and the take-up unit as close to the workpiece as possible.**

2. **Turn the knurled nut on the take-up unit until the pull rod is fully extended. Select the number of chain segments required for the workpiece and attach to the pull rod.**

3. **Fine adjustment of the chain lengths is made by tightening the knurled nut until the chain slightly touches the workpiece.**

4. **To clamp the work piece connect the free end of the chain onto the hook unit. Using a hex key tighten the eccentric shaft, and ensure the lever is rotated to its fully locked position (180°). The workpiece is now clamped.**
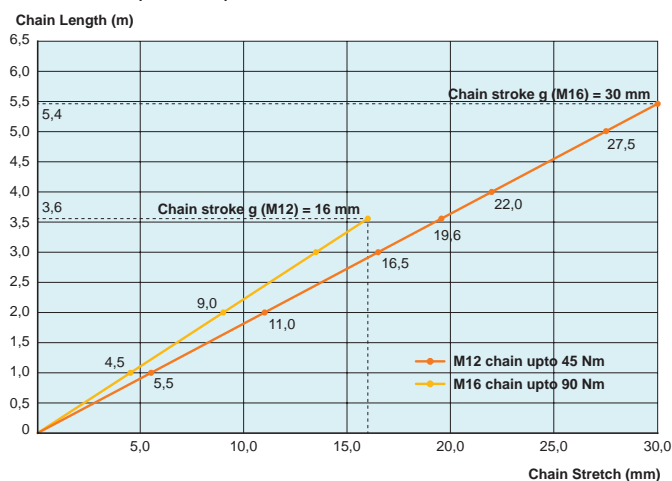

chain force   clamping force   chain force
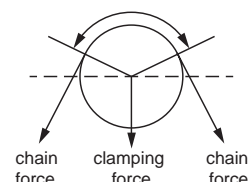
Important Factors in Selection of Chain Clamp

The clamping force achievable through the Wixroyd chain clamp set is dependent upon three factors:

- Workpiece diameter (see graph).
- Chain length and stretch (see graph).
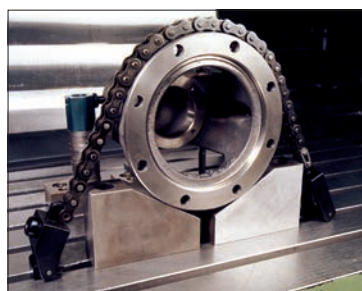- Contact angle of chain and workpiece (see table below right).

Chain Stretch at Specified Torques

Chain stroke g (M16) = 30 mm
27,5
Chain stroke g (M12) = 16 mm
22,0
19,6
16,5
9,0
11,0
4,5
5,5
5,4
3,6

— M12 chain upto 45 Nm
— M16 chain upto 90 Nm

Chain Stretch (mm)

Chain Length and Stretch

Torque value of 50 Nm is used for M12 set.

Torque value of 90 Nm is used for M16 set.

Clamping with the chain clamp set.

	Torque	α = 105°	α = 120°	α = 135°	α = 150°	α = 180°
M12	50Nm	80%	87%	92%	97%	100%
M16	90Nm	80%	87%	92%	97%	100%

Table of Clamping Force to Contact Angle α

Important Note: Achievable clamping force decreases as the contact angle of chain and workpiece (α) reduces. Please use the table above as a guide.