



- 1 Improved asymmetric housing**
– even distribution of forces and safe assembly
- 2 Screw support**
– ease of assembly due to the safe guidance of the emerging band end
- 3 Material and clamping range stamped on the band**
– prevention of errors
- 4 Asymmetric extension**
– prevents the housing from tilting over when the clamp is tightened
- 5 Short housing saddle**
– even contact pressure
– improved efficiency
- 6 Smooth or stamped inside of band**
– optimal hose protection

Worm drive hose clamps in accordance with DIN 3017

NORMACLAMP® TORRO® multi-range hose clamps are ideally suited to applications with high mechanical loads. Thanks to the continuous developments these products have undergone, they remain the benchmark within modern clamp construction. The key feature of a NORMACLAMP® TORRO® product is its asymmetrical construction - an instant sign that it is a genuine TORRO®.

Asymmetric housing provides high clamping force and superior torque strength. Even distribution of clamping pressure. Clamp aligns perfectly on the hose and ensures the optimal sealing of the connection.



Advantages at a glance

- Multi-range hose clamp
- No chromium(VI) used for coating purposes
- Clamping ranges in acc. with DIN 3017: 8-16 mm to 140-160 mm
- Larger diameters available on request

Applications

- Joining cooling water lines
- Depressurized and pressurized fuel lines and ventilation systems
- Oil lines
- Joining lines in sanitary applications
- Joining lines in machine building applications
- Lines in the household appliance industry
- Hose lines in the commercial vehicle industries

Materials

W1*	W2	W3	W4	W5
x	x	x	x	x

* No chromium(VI) used for the coating on the closure components

Material	Corrosion resistance in salt spray testing
W1	Min. 144 h
W2	Min. 72 h
W3	Min. 200 h*
W4	Min. 400 h
W5	Min. 1000 h

*Max 10% base metal corrosion permissible

Types of clamp band and screw

	W1	W2	W3	W4	W5
Phillips head SW 7*	•	•			
Slotted head SW 7			•	•	•

* Band width 7.5 mm = SW 6

Band width 7.5 mm

- W2, W3 with smooth inside

Band width 9 mm

- W1 with smooth inside
- W2, W3, W4, W5 with stamped inside

Band width 12 mm

- W1, W2, W3 with smooth inside
- W4, W5 with stamped inside

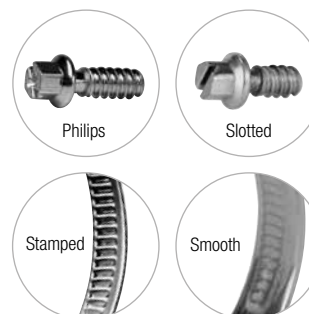


Table of torques

TORRO 7.5 W2-W3

Diameter	8-12	10-16	12-18	12-22	16-27	20-32	25-40	30-45	35-50	40-60
TT	max 1.5	max 1.5	max 1.5	max 1.5	max 1.5					
FRT max										
TT	2	2	2	2	2					
BT min	2.25	2.25	2.25	2.25	2.25					

TORRO 9 W1

Diameter	8-12	10-16	12-18	12-22	16-27	20-32	25-40	30-45	35-50	40-60
TT	2.5 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5
FRT max	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
TT	3.3	4	4	4	4	4	4	4	4	4
BT min	4	4.5	4.5	4.5	4.5	4.5	6	6	6	6

Diameter	50-70	60-80	70-90	80-100	90-110	100-120	110-130	120-140	130-150	140-160
TT	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5
FRT max	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
TT	4	4	4	4	4	4	4	4	4	4
BT min	6	6	6	6	6	6	6	6	6	6

TORRO 9 W2

Diameter	8-12	8-16	12-18	12-22	16-27	20-32	25-40	30-45	35-50	40-60
TT		2 +0.5		3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5
FRT max		0.7		0.7	0.7	0.7	0.7	0.7	0.7	0.7
TT		2.6		4	4	4	4	4	4	4
BT min		4		4.5	4.5	4.5	4.5	4.5	4.5	4.5

Diameter	50-70	60-80	70-90	80-100	90-110	100-120	110-130	120-140	130-150	140-160
TT	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5
FRT max	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
TT	4	4	4	4	4	4	4	4	4	4
BT min	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5

TORRO 9 W3-W5

Diameter	8-12	8-16	12-18	12-22	16-27	20-32	25-40	30-45	35-50	40-60
TT		2 +0.5		3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5
FRT max		0.7		0.7	0.7	0.7	0.7	0.7	0.7	0.7
TT		2.6		4	4	4	4	4	4	4
BT min		4		4.5	4.5	4.5	4.5	4.5	4.5	4.5

Diameter	50-70	60-80	70-90	80-100	90-110	100-120	110-130	120-140	130-150	140-160
TT	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5	3 +0.5
FRT max	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
TT	4	4	4	4	4	4	4	4	4	4
BT min	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5

TT = Tightening Torque

FRT = Free Running Torque

TT = Testing Torque

BT = Break Torque

Table of torques

TORRO 12 W1

Diameter	8-12	10-16	12-18	12-22	16-27	20-32	25-40	30-45	35-50	40-60
TT					5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5
FRT max					1.2	1.2	1.2	1.2	1.2	1.2
TT					6.5	6.5	6.5	6.5	6.5	6.5
BT min					10	10	10	10	10	10

Diameter	50-70	60-80	70-90	80-100	90-110	100-120	110-130	120-140	130-150	140-160
TT	5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5
FRT max	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
TT	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
BT min	10	10	10	10	10	10	10	10	10	10

TORRO 12 W2/W3

Diameter	8-12	10-16	12-18	12-22	16-27	20-32	25-40	30-45	35-50	40-60
TT					5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5
LD max					1	1	1	1	1	1
TT					6.5	6.5	6.5	6.5	6.5	6.5
BT min					8.0	8.0	8.5	8.5	8.5	8.5

Diameter	50-70	60-80	70-90	80-100	90-110	100-120	110-130	120-140	130-150	140-160
TT	5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5
FRT max	1	1	1	1	1	1	1	1	1	1
TT	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
BT min	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5

TORRO 12 W4/W5

Diameter	8-12	10-16	12-18	12-22	16-27	20-32	25-40	30-45	35-50	40-60
TT					5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5
FRT max					1	1	1	1	1	1
TT					6.5	6.5	6.5	6.5	6.5	6.5
BT min					8	8	8.5	8.5	8.5	8.5

Diameter	50-70	60-80	70-90	80-100	90-110	100-120	110-130	120-140	130-150	140-160
TT	5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5	5 +0.5
FRT max	1	1	1	1	1	1	1	1	1	1
TT	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
BT min	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5

TT = Tightening Torque

FRT = Free Running Torque

TT = Testing Torque

BT = Break Torque

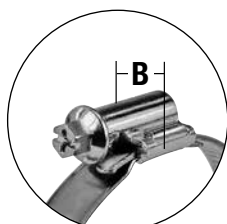
Technical data & Ordering information

NORMACLAMP® TORRO®													
Width	Designation	Clamping ranges		B	h	L	s	S (W1 only)	W1 Product No.	W2 Product No.	W3 Product No.	W4 Product No.	W5 Product No.
		in mm	in inches										
7.5	TORRO 8-12/7.5	8-12	5/16-1/2	11.5	9	17	0.6			0116 7602 010	0116 7603 010		
	TORRO 10-16/7.5	10-16	3/8-5/8	11.5	9	17	0.6			0116 7602 013	0116 7603 013		
	TORRO 12-18/7.5	12-18	1/2-11/16	11.5	9	17	0.6			0116 7602 015	0116 7603 015		
	TORRO 12-22/7.5	12-22	1/2-7/8	11.5	9	17	0.6			0116 7602 017	0116 7603 017		
	TORRO 16-27/7.5	16-27	5/8-1 1/16	11.5	9	17	0.6			0116 7602 021	0116 7603 021		
9	TORRO 8-12/9	8-12	5/16-1/2	13.0	11.0	21.0	0.65	0.8	0126 7565 010	0126 7702 010	0126 7703 010	0126 7704 010	
	TORRO 8-16/9 (10-16)	8-16	5/16-5/8	13.0	11.0	21.0	0.65	0.8	0126 7565 013	0126 7702 013	0126 7703 013	0126 7704 013	0126 7705 013
	TORRO 12-22/9	12-22	1/2-7/8	13.0	11.0	24.0	0.65	0.8	0126 7565 017	0126 7702 017	0126 7703 017	0126 7704 017	0126 7705 017
	TORRO 16-27/9	16-27	5/8-1 1/16	13.0	11.0	24.0	0.65	0.8	0126 7565 021	0126 7702 021	0126 7703 021	0126 7704 021	0126 7705 021
	TORRO 20-32/9	20-32	13/16-1 1/4	13.0	11.0	24.0	0.65	0.8	0126 7565 026	0126 7702 026	0126 7703 026	0126 7704 026	0126 7705 026
	TORRO 23-35/9	23-35	15/16-1 3/8	13.0	11.0	24.0	0.65	0.8	0126 7565 029	0126 7702 029	0126 7703 029	0126 7704 029	0126 7705 029
	TORRO 25-40/9	25-40	1-1 9/16	13.0	11.0	26.0	0.65	0.8	0126 7565 032	0126 7702 032	0126 7703 032	0126 7704 032	0126 7705 032
	TORRO 30-45/9	30-45	1 3/16-1 3/4	13.0	11.0	26.0	0.65	0.8	0126 7565 037	0126 7702 037	0126 7703 037	0126 7704 037	0126 7705 037
	TORRO 35-50/9 (32-50)	35-50	1 3/8-2	13.0	11.0	26.0	0.65	0.8	0126 7565 043	0126 7702 041	0126 7703 041	0126 7704 041	0126 7705 041
	TORRO 40-60/9	40-60	1 9/16-2 3/8	13.0	11.0	26.0	0.65	0.8	0126 7565 050	0126 7702 050	0126 7703 050	0126 7704 050	0126 7705 050
	TORRO 50-70/9	50-70	2-2 3/4	13.0	11.0	26.0	0.65	0.8	0126 7565 060	0126 7702 060	0126 7703 060	0126 7704 060	0126 7705 060
	TORRO 60-80/9	60-80	2 3/8-3 1/8	13.0	11.0	26.0	0.65	0.8	0126 7565 070	0126 7702 070	0126 7703 070	0126 7704 070	0126 7705 070
	TORRO 70-90/9	70-90	2 3/4-3 9/16	13.0	11.0	26.0	0.65	0.8	0126 7565 080	0126 7702 080	0126 7703 080	0126 7704 080	0126 7705 080
	TORRO 80-100/9	80-100	3 1/8-3 15/16	13.0	11.0	26.0	0.65	0.8	0126 7565 090	0126 7702 090	0126 7703 090	0126 7704 090	0126 7705 090
	TORRO 90-110/9	90-110	3 9/16-4 5/16	13.0	11.0	26.0	0.65	0.8	0126 7565 100	0126 7702 100	0126 7703 100	0126 7704 100	0126 7705 100
	TORRO 100-120/9	100-120	3 15/16-4 3/4	13.0	11.0	26.0	0.65	0.8	0126 6565 110	0126 6702 110	0126 6703 110	0126 6704 110	0126 6705 110
	TORRO 110-130/9	110-130	4 5/16-5 1/8	13.0	11.0	26.0	0.65	0.8	0126 6565 120	0126 6702 120	0126 6703 120	0126 6704 120	0126 6705 120
	TORRO 120-140/9	120-140	4 3/4-5 1/2	13.0	11.0	26.0	0.65	0.8	0126 6565 130	0126 6702 130	0126 6703 130	0126 6704 130	0126 6705 130
	TORRO 130-150/9	130-150	5 1/8-5 15/16	13.0	11.0	26.0	0.65	0.8	0126 6565 140	0126 6702 140	0126 6703 140	0126 6704 140	0126 6705 140
	TORRO 140-160/9	140-160	5 1/2-6 5/16	13.0	11.0	26.0	0.65	0.8	0126 6565 150	0126 6702 150	0126 6703 150	0126 6704 150	0126 6705 150
12	TORRO 16-27/12	16-27	5/8-1 1/16	14.6	12.5	30.0	0.8	0.8	0136 7352 021	0136 7702 021	0136 7703 021	0136 7704 021	0136 7705 021
	TORRO 20-32/12	20-32	13/16-1 1/4	14.6	12.5	30.0	0.8	0.8	0136 7352 026	0136 7702 026	0136 7703 026	0136 7704 026	0136 7705 026
	TORRO 23-35/12	23-35	15/16-1 3/8	14.6	12.5	30.0	0.8	0.8	0136 7352 029	0136 7702 029	0136 7703 029	0136 7704 029	0136 7705 029
	TORRO 25-40/12	25-40	1-1 9/16	14.6	12.5	30.0	0.8	1.0	0136 7352 032	0136 7702 032	0136 7703 032	0136 7704 032	0136 7705 032
	TORRO 30-45/12	30-45	1 3/16-1 3/4	14.6	12.5	30.0	0.8	1.0	0136 7352 037	0136 7702 037	0136 7703 037	0136 7704 037	0136 7705 037
	TORRO 35-50/12	35-50	1 3/8-2	14.6	12.5	30.0	0.8	1.0	0136 7352 043	0136 7702 043	0136 7703 043	0136 7704 043	0136 7705 043
	TORRO 40-60/12	40-60	1 9/16-2 3/8	14.6	12.5	30.0	0.8	1.0	0136 7352 050	0136 7702 050	0136 7703 050	0136 7704 050	0136 7705 050
	TORRO 50-70/12	50-70	2-2 3/4	14.6	12.5	30.0	0.8	1.0	0136 7352 060	0136 7702 060	0136 7703 060	0136 7704 060	0136 7705 060
	TORRO 60-80/12	60-80	2 3/8-3 1/8	14.6	12.5	30.0	0.8	1.0	0136 7352 070	0136 7702 070	0136 7703 070	0136 7704 070	0136 7705 070
	TORRO 70-90/12	70-90	2 3/4-3 9/16	14.6	12.5	36.0	0.8	1.0	0136 7352 080	0136 7702 080	0136 7703 080	0136 7704 080	0136 7705 080
	TORRO 80-100/12	80-100	3 1/8-3 15/16	14.6	12.5	36.0	0.8	1.0	0136 7352 090	0136 7702 090	0136 7703 090	0136 7704 090	0136 7705 090
	TORRO 90-110/12	90-110	3 9/16-4 5/16	14.6	12.5	36.0	0.8	1.0	0136 7352 100	0136 7702 100	0136 7703 100	0136 7704 100	0136 7705 100
	TORRO 100-120/12	100-120	3 15/16-4 3/4	14.6	12.5	36.0	0.8	1.0	0136 6352 110	0136 6702 110	0136 6703 110	0136 6704 110	0136 6705 110
	TORRO 110-130/12	110-130	4 5/16-5 1/8	14.6	12.5	36.0	0.8	1.0	0136 6352 120	0136 6702 120	0136 6703 120	0136 6704 120	0136 6705 120
	TORRO 120-140/12	120-140	4 3/4-5 1/2	14.6	12.5	36.0	0.8	1.0	0136 6352 130	0136 6702 130	0136 6703 130	0136 6704 130	0136 6705 130
	TORRO 130-150/12	130-150	5 1/8-5 15/16	14.6	12.5	36.0	0.8	1.0	0136 6352 140	0136 6702 140	0136 6703 140	0136 6704 140	0136 6705 140
	TORRO 140-160/12	140-160	5 1/2-6 5/16	14.6	12.5	36.0	0.8	1.0	0136 6352 150	0136 6702 150	0136 6703 150	0136 6704 150	0136 6705 150

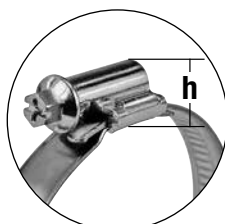
Additional diameters on request (up to 700 mm)



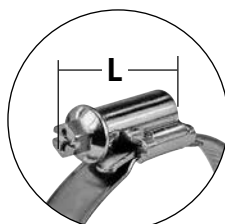
Refer to pages 181, 183, 184, 185, 188 and 191.



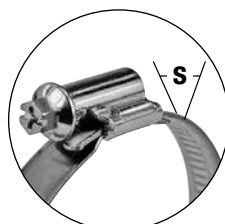
B = overall width
housing



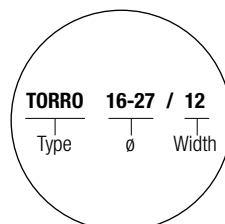
h = overall height
bolt and housing



L = overall length
bolt and housing



s = band thickness
clamp band



Name structure
clamp band