

CLAMPS

1. Worm Drive
2. Constant Tension
3. GBS
4. EFI Clamps
5. Pipe Clamps
6. Breeze Clamps
7. Assortments
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NORMA Clamps

Hose Clamps—Worm Drive

- ✦ general purpose hose clamps
- ✦ ideal for hose sealing and use in many different applications with a high mechanical load
- ✦ available in high grade stainless steel for coastal/high corrosive application
- ✦ rounded edge to prevent damage to hose



- 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

Ideal for the connecting of fuel lines in the automotive industry, as well as for lines in the white good industry, for sanitary facilities or in machine construction. Perfect for sealing hoses which are exposed to wide swings in temperature or have a tendency to "flow" under the pressure of the clamp.

Applications:

Cooling Water or Oil lines
 Vacuum and pressure fuel lines and vent lines
 De-(pressurized) fuel lines and vent lines
 Connections in sanitary installations
 Connections in the white goods industry
 Hose connections in commercial vehicles industries
 Air ducts, both vacuum and excess pressure applications (e. g. charged air)

W1	Alu Zinc Band and Screw
W2	430 SS Band with Alu Zinc Screw
W3	430 SS Band & Screw
W4	304 SS Band & Screw
W5	316 SS Band & Screw

Hose Clamps—Worm Drive cont...

9MM BAND WIDTH:

Ideal for the connecting of fuel lines in the automotive industry, as well as for lines in the white good industry, for sanitary facilities or in machine construction. Perfect for sealing hoses which are exposed to wide swings in temperature or have a tendency to "flow" under the pressure of the clamp.

12MM BAND WIDTH:

Especially suitable for general hose connections in most industries, where a high degree of mechanical stress can be expected. Offer increased band power and perfect tightness.

9MM BAND WIDTH				
W1	W2	W3	W4	W5
8-12mm	8-16mm	8-16mm	8-16mm	8-16mm
10-16mm	12-20mm	12-20mm	12-20mm	12-20mm
12-18mm	16-25mm	16-25mm	12-22mm	16-25mm
12-22mm	20-32mm	20-32mm		
	25-40mm	25-40mm		
	30-45mm	30-45mm		
	32-50mm	32-50mm		
	40-60mm	40-60mm		
	50-70mm	50-70mm		
	60-80mm	60-80mm		
	70-90mm	70-90mm		
	80-100mm	80-100mm		
	90-110mm	90-110mm		

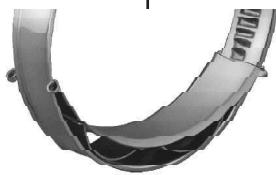
12MM BAND WIDTH				
W1	W2	W3	W4	W5
16-27mm		16-27mm	16-27mm	16-27mm
20-32mm		20-32mm	20-32mm	20-32mm
25-40mm		25-40mm	25-40mm	25-40mm
30-45mm		30-45mm	30-45mm	30-45mm
35-50mm		35-50mm	35-50mm	35-50mm
40-60mm		40-60mm	40-60mm	40-60mm
50-70mm		50-70mm	50-70mm	50-70mm
60-80mm		60-80mm	60-80mm	60-80mm
70-90mm		70-90mm	70-90mm	70-90mm
80-100mm		80-100mm	80-100mm	80-100mm
90-110mm		90-110mm	90-110mm	90-110mm
100-120mm		100-120mm	100-120mm	100-120mm
110-130mm		110-130mm	110-130mm	110-130mm
120-140mm		120-140mm	120-140mm	120-140mm
130-150mm		130-150mm	130-150mm	130-150mm
140-160mm		140-160mm	140-160mm	140-160mm
150-170mm		150-170mm	150-170mm	150-170mm
160-180mm		160-180mm	160-180mm	160-180mm
170-190mm		180-200mm	170-190mm	180-200mm
180-200mm		210-230mm	180-200mm	210-230mm
190-210mm		230-250mm	190-210mm	230-250mm
200-220mm		260-280mm	230-250mm	260-280mm
210-230mm		280-300mm	280-300mm	280-300mm
230-250mm				
260-280mm				
280-300mm				

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Worm Drive Constant Tension Clamps

12MM BAND WIDTH	9MM BAND WIDTH
16-27mm	12-20mm
25-40mm	16-25mm
30-45mm	20-32mm
35-50mm	25-40mm
40-60mm	30-45mm
50-70mm	32-50mm
60-80mm	40-60mm
70-90mm	
80-100mm	
90-110mm	
100-120mm	
120-140mm	



- ✦ worm drive clamp with constant tension spring offers an automatic self adjusting feature when the hose relaxes and is therefore particularly suited to connecting cooling and heating hoses
- ✦ when tightening the screw the spring is loaded and stores sufficient clamping force to ensure a long-lasting automatic re-tensioning effect. thus the radial clamping force achieved will be sufficient even under low temperatures

Heavy Duty Bolt Clamp

CLAMPING RANGE

55-65mm
64-74mm
74-84mm
88-98mm
94-104mm
104-114mm
112-122mm
130-140mm



20mm Band Width
430 SS Band with
Alu Zinc Screw

- ✦ self-adjusting "dynamic" constant tension clamps designed for silicon & EPDM hose connections on engine manifolds & coolant systems
- ✦ design assists in eliminating hose "blow-off" failures on air intake/charged-air systems of turbocharged petrol & diesel engines
- ✦ use whenever leakage caused by cold-flow or thermal expansion is a problem

Constant Tension Spring Band

- ✦ particularly suitable for use with hose-spigot connections which are submitted to extreme temperature changes
- ✦ provide a continuously readjusting dynamic tightening effect. also at low temperatures the radially acting tightening force is sufficient to assure a reliable tightness of the system
- ✦ even hoses that are submitted to extreme temperature cycles, or those with a tendency to "creep" can be combined to form a safe connection

CLAMPING RANGE

13mm	26mm
14mm	27mm
16mm	32mm
17mm	35mm
19mm	36mm
20mm	38mm
22mm	42mm
23mm	44mm
24mm	



GBS Heavy Duty Clamps



- 1 W1/W2/W4
New specially designed bolt with integrated spacer
= improved efficiency, cannot get lost
W5
Hexagonal socket screw
- 2 Reinforced loops
= allow to withstand significantly higher torques
- 3 Mechanically locked closure
= no welding points, no contact corrosion
- 4 Bridge = optimal hose protection
- 5 Robust band with rounded edges
= protection against injuries and damage to the hose surface

Primarily for use in applications where hose clamps must meet stringent requirements. In particular, if suction and pressure hose, complete with plastic or steel inserts and high shore hardness values, are to be connected and attached.

APPLICATIONS:

- ✦ performance automotive
- ✦ silicon, turbo, intercooler & exhaust hose connectors
- ✦ agricultural, commercial and industrial vehicles & equipment
- ✦ high vibration & stubborn leakage applications
- ✦ marine industry
- ✦ food industry
- ✦ chemical industry

MATERIAL GRADES:

W1 - All components completely zinc plated steel clear chromate
W2 - Bands and housings made of chromium stainless steel 1.4016 (430)
Closure components made of steel zinc plated
W4 - All components completely stainless steel 1.4301 (304)

AVAILABLE SIZES:

From 17mm (11/16") to 330mm (13")

EFI Hose Clamps

- ✦ anti pinch liner
- ✦ optimum seal by retaining circular form
- ✦ use on fuel and vacuum hoses where maximum seal is required



W4 304 SS Band & Screw

CLAMPING RANGE
7.5-8.5mm
8.5-9.5mm
9.5-11.0mm
10.5-12.0mm
11.5-13.0mm
12.5-14.0mm
13.5-15.0mm
14.5-16.0mm
15.0-17.0mm
16.0-18.0mm



W1 Alu Zinc Band & Screw

CLAMPING RANGE
7-9mm
9-11mm
10-12mm
11-13mm
12-14mm
13-15mm
14-16mm
15-17mm

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Heavy Duty Rubber Lined P Clips

- ✦ suitable for use in applications submitted to high mechanical loads
- ✦ the perfect vibration dampening support for hoses, cables, pipes etc.
- ✦ reinforced band ends preventing the clips from tearing in high vibration applications
- ✦ designed & manufactured in Germany to DIN3016 standards



- 1 Form fitting and adjustable band
= ease of assembly
= safe attachment
- 2 Reinforced band ends
= prevent the clip from tearing or loosening in cases where there is a high mechanical load
- 3 Optionally supplied with EPDM profile
= vibration damping & protection against seepage water
= sound insulation
= clip fits tight on object

CLAMPING RANGE		
4	20	48
6	22	50
9	25	55
10	27	57
12	29	60
13	32	64
15	35	66
16	38	76
18	40	
19	45	

15mm and 20mm Band Width

MATERIAL GRADES:

- W1 - Mild steel zinc plated with EPDM sleeve and
- W5 - High grade non-magnetic stainless steel 1.4401/1.4571 (316) with EPDM sleeve

Available with 6mm (1/4") or 10mm (3/8") mounting holes

Light Duty Rubber Lined P Clips

- ✦ suitable for use in applications submitted to only slight mechanical loads
- ✦ designed & manufactured in Germany to DIN3016 standards

CLAMPING RANGE	
6	22
9	25
10	27
12	29
13	32
15	35
16	38
18	40
19	45
20	



12mm Band Width

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BREEZE Clamps

All Breeze clamps are produced to stringent aircraft, vehicle and international quality standards. Breeze has continuously developed and expanded its product line of clamps since the first Aero-Seals -- each line is designed for specific areas of use with performance features and refinements that set it apart, but all conform to the same basic, high quality Breeze. **MANUFACTURED IN THE USA.**

MATERIAL GRADES:

Available in part stainless steel or full stainless steel (410, 304 or 316 SS)

Mini Clamp

- ✦ a light weight streamlined clamp generally used in small diameter applications such as fuel & air lines
- ✦ 6.4mm slotted hex head screw

CLAMPING RANGE

6 - 11mm
11-20mm
13-23mm
14-27mm
17-32mm
24-38mm
30-44mm
37-51mm
43-57mm
49-64mm



7.9mm Band Width

Power Seal Clamp

- ✦ general purpose automotive and industrial clamp
- ✦ high strength 4-piece Quadra-Lock construction
- ✦ exceeds all SAE requirements
- ✦ use for all standard clamp applications.

CLAMPING RANGE

11-20mm
13-23mm
14-27mm
17-32mm
21-38mm
21-44mm
27-51mm
33-57mm
40-64mm



12.7mm Band Width

NORMA Fuel & Emission Hose Clip Kit

- ✦ contains 105 pieces
- ✦ sizes from 7mm (9/32") to 17mm (11/16")
- ✦ available in 2 material grades, w1 alu - zinc or w4 all stainless steel
- ✦ designed & manufactured in Germany

ARTICLE NO	DESCRIPTION	QTY
HCFLA105W1	W1 Alu Zinc Fuel&Emi HC Kit	105pcs
HCFLA105W4	W4 all SS Fuel&Emi HC Kit	105pcs



NORMA Solid Band Clamp Wall Merchandiser

- ✦ contains 160 pieces
- ✦ all popular sizes from 8mm (5/16") to 60mm (2.35")
- ✦ band & housing: stainless steel (1.4016/aisi 430)
- ✦ screw: mild steel zinc plated & chromate
- ✦ designed & manufactured in Germany

ARTICLE NO	DESCRIPTION	QTY
HCWDRACKW2	W2 Grade Norma Wall Merchandiser	160pcs



NORMA Solid Band Clamp Wall Rack

- ✦ contains 130 pieces + 2 flexidrivs
- ✦ all popular sizes from 8mm (5/16") to 60mm (2.35")
- ✦ designed & manufactured in Germany

ARTICLE NO	DESCRIPTION	QTY
HCWDRACK130W1	W1 Alu Zinc Norma Wall Rack	130pcs 2drivers



NORMA Heavy Duty Rubber Lined P Clip Kit

- ✦ contains 90 pieces
- ✦ sizes: 4mm, 6mm, 9mm, 10mm, 12mm, 15mm, 16mm, 18mm, 20mm, 22mm & 25mm
- ✦ heavy duty mounting plates with epdm rubber sleeves
- ✦ designed & manufactured in Germany

ARTICLE NO	DESCRIPTION	QTY
PCA90	90pc P clip kit	90pcs



ASSORTMENTS

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BREEZE Slotted Band Wall Rack

- ✦ Contains 140 pieces + flexidriver
- ✦ Combination of the stream lined mini clamps for small bore hose applications and the high strength Quadra-Lock clamps for automotive and marine
- ✦ All popular sizes from 6mm (1/4") to 70mm (2.75")
- ✦ Designed & manufactured in the USA



ARTICLE NO	DESCRIPTION	QTY
HCBRACKW2	W2 grade Breeze Wall Rack	140pcs

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NORMA Flexidriver

- ✦ For easy installation & removal of Norma worm drive hose clamps
- ✦ Available to suit metric heads of 6mm & 7mm and imperial heads of 1/4" & 5/16"
- ✦ Designed & manufactured in Germany



ARTICLE NO	DESCRIPTION	QTY
HCFLEX7	Flexidriver Short	1

NORMA Flexidriver - Long

- ✦ Extra long 500mm shaft to ensure easy installation & removal of Norma worm drive hose clamps in hard to reach positions such as clamps on bottom radiator hoses etc
- ✦ Available to suit 6mm & 7mm heads
- ✦ Designed & manufactured in Germany



ARTICLE NO	DESCRIPTION	QTY
HCFLEX7L	Flexidriver long	1