

- 1 Lot number stamped on**
– reliable traceability
- 2 NORMA® logo**
– a visible sign of quality
- 3 Base and Topcoat Coating System**
– Double layered chromium VI-free coating
– provides optimum corrosion and chemical protection
- 4 Nominal diameter stamped on**
– prevents mistakes
- 5 Special design**
– even distribution of clamping force and excellent roundness
- 6 Rounded band edges**
– optimum hose protection

Springband hose clamps in acc. with DIN 3021

NORMACLAMP® FBS springband hose clamps are the perfect choice for hose spigot systems that are exposed to significant temperature fluctuations.

Once installed, their dynamic spring properties ensure an automatic re-tensioning effect over long periods of time. Even at low temperatures,

this mechanism still enables sufficiently high levels of radial clamping force to be achieved, which in turn ensures excellent sealing reliability.

With NORMACLAMP® FBS clamps even hoses that have a tendency to “creep” can be joined securely. Manual or pneumatic tools are used for professional installation.

Advantages at a glance

- One-piece, bolt-free hose clamp
- Even distribution of clamping force
- Optimum roundness
- Temperature resistance from –40 °C to 200 °C
- Automatically re-tensions to accommodate temperature fluctuations
- Clear traceability due to batch numbering

Applications

- Machine building
- White goods
- Agricultural machines
- Engine manufacturing
- Cooling and heating water circuits
- Fuel vent system
- Air ducts
- Water and brine outlet lines

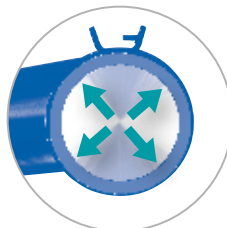
Materials

Material	Zinc/aluminum coating	Organic coating
C 75 S	Base coat	Topcoat

Corrosion resistance in salt spray testing
Up to 720 h according to DIN EN ISO 9227

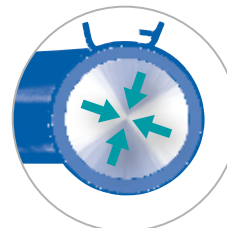
Short description

- Dynamic clamp
- Band material C 75 S
- Coating containing zinc; no chromium(VI)
- Nominal diameter of 13 mm to 70 mm in various graduations



At high temperatures

- Hose diameter increases
- FBS adapts to internal pressure



At low temperatures

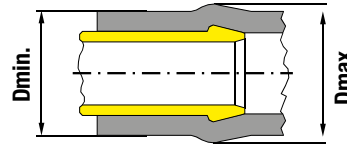
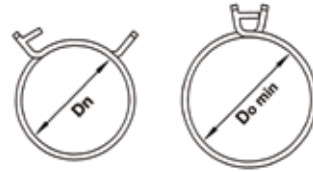
- Hose diameter decreases
- FBS re-tensions
- Clamping force is retained and clamp provides perfect seal

Determine clamp size

To determine which clamp is right for you, follow these steps:

1. Push the hose onto the spigot and measure $D_{min.}$ and $D_{max.}$
2. Based on the $D_{min.}$ value, determine the nominal diameter (D_n) of the clamp in question. $D_n = D_{min.}$
3. Compare the $D_{max.}$ value with the minimum diameter ($D_{0 min.}$) specified for the open clamp and select the clamp that is appropriate.
 $D_{0 min.} \geq D_{max.}$

If required, we can send you an appropriate sample before you place your order. If you have any additional, application-specific questions, we will be happy to advise you in more detail.



Technical data & Ordering information

NORMACLAMP® FBS STANDARD							
Width	Designation	D _n mm	D _n in inches	D _{0 m} in mm	D _{0 min} in inches	Material C 75 S Product No.	
						Black	Silver
12	FBS 13/12	13	1/2"	14.5	9/16"	0112 8024 013	0112 8074 013
	FBS 14/12	14	9/16"	15.8	5/8"	0112 8024 014	0112 8074 014
	FBS 15/12	15	9/16"	16.8	11/16"	0112 8024 015	0112 8074 015
	FBS 16/12	16	5/8"	17.5	11/16"	0112 8024 016	0112 8074 016
	FBS 17/12	17	11/16"	18.5	3/4"	0112 8024 017	0112 8074 017
	FBS 18/12	18	11/16"	19	3/4"	0112 8024 018	0112 8074 018
	FBS 19/12	19	3/4"	21	13/16"	0112 8024 019	0112 8074 019
	FBS 20/12	20	13/16"	21.6	7/8"	0112 8024 020	0112 8074 020
	FBS 21/12	21	13/16"	22.5	7/8"	0112 8024 021	0112 8074 021
	FBS 22/12	22	7/8"	24.5	15/16"	0112 8024 022	0112 8074 022
	FBS 23/12	23	15/16"	24.7	1"	0112 8024 023	0112 8074 023
	FBS 24/12	24	15/16"	26	1"	0112 8024 024	0112 8074 024
	FBS 25/12	25	1"	27	1 1/16"	0112 8024 025	0112 8074 025
	FBS 26/12	26	1"	28	1 1/8"	0112 8024 026	0112 8074 026
	FBS 27/12	27	1 1/16"	29	1 1/8"	0112 8024 027	0112 8074 027
	FBS 28/12	28	1 1/8"	30.5	1 3/16"	0112 8024 028	0112 8074 028
	FBS 29/12	29	1 1/8"	31.5	1 1/4"	0112 8024 029	0112 8074 029
	FBS 30/12	30	1 3/16"	32.5	1 1/4"	0112 8024 030	0112 8074 030
	FBS 32/12	32	1 1/4"	34.5	1 3/8"	0112 8024 032	0112 8074 032
	FBS 35/12	35	1 3/8"	38	1 1/2"	0112 8024 035	0112 8074 035
	FBS 36/12	36	1 7/16"	39	1 9/16"	0112 8024 036	0112 8074 036
	FBS 38/12	38	1 1/2"	41.5	1 5/8"	0112 8024 038	0112 8074 038
	FBS 40/12	40	1 9/16"	42.5	1 11/16"	0112 8024 040	0112 8074 040
	FBS 42/12	42	1 5/8"	44.5	1 3/4"	0112 8024 042	0112 8074 042
	FBS 44/12	44	1 3/4"	46.5	1 13/16"	0112 8024 044	0112 8074 044
	FBS 46/12	46	1 13/16"	49	1 15/16"	0112 8024 046	0112 8074 046
	FBS 47/12	47	1 7/8"	50	2"	0112 8024 047	0112 8074 047
	FBS 50/12	50	2"	53	2 1/16"	0112 8024 050	0112 8074 050
	FBS 55/12	55	2 3/16"	58	2 1/4"	0112 8024 055	0112 8074 055
	FBS 60/12	60	2 3/8"	63	2 1/2"	0112 8024 060	0112 8074 060

Special diameters available on request



Refer to pages 195 and 198.

FBS R



The **NORMACLAMP®** FBS R was designed with the aim of achieving the smallest overall height that was technically possible so that it could be used in difficult installation conditions.

Main advantage
Space-saving clamp

Material
C75S



Refer to pages 195 and 198.

FBS C



A pre-opened clamp that must be glued into place on the hose. Ask your sales representative for the gluing instructions. The retaining mechanism for this version is part of the band and is integrated into the clamp.

Advantages at a glance

- Pre-assembled clamp
- Ready to use

Material
C75S



Refer to page 195.

FBS HC



A pre-opened version that is secured by a plastic clip and can also be glued into place on the hose. Ask your Sales Representative for gluing instructions. Once the clamp has been pushed onto the hose, this clip can be released easily by hand.

Main advantage
Easy to assemble

Material
C75S

FBS MC



A pre-opened version that is secured by a metal clip and can also be glued into place on the hose. Ask your Sales Representative for gluing instructions. The retaining clip for this version is removed by using pliers.

Main advantage
Secured clamp

Material
C75S