

EVOTEK hydraulic technology filtration solution

-----Improve the service efficiency and life of hydraulic system.

Importance of hydraulic filtration:

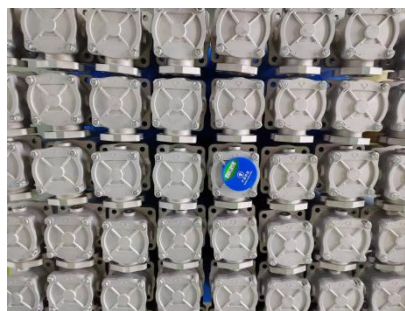
- Decrease maintenance efforts and expenses
- Decrease cost of hydraulic fluid for change and replenishment
- Increase life span and reliability of hydraulic system and application
- Prevent premature wear of crucial components and the hydraulic system

Advantage:

- Products conform with international industry standards
- Short processes and fast reaction time
- International background
- Specialized in hydraulic filtration technology
- High grade of customizability (in-house design and development)

EVOTEK hydraulic components

- Close cooperation with Italian partner in terms of production and quality
- European technology
- Core parts imported with high quality
- 100% test for function, pressure, flow rate and internal leakage



EVOTEK hydraulic technology - Quality System

----- EVOTEK stands for reliable and consistent high quality filtration products

- high performance filtration media tested according to ISO 16889 multi-pass test
- filtration media test of each batch for pore size and first bubble point
- burst pressure test of housings with three times working pressure according to ISO 2944
- differential pressure vs. flow rate test of element and assembly according to ISO 3968
- bypass valve test for opening pressure and leakage
- element tests of running production for fabrication integrity according to ISO 2942
- 100% leakage test of assemblies before products are released for delivery

In EVOTEK, quality is more important than quantity. Create a culture of quality that permeates every level of the organization.

- Skills training for all relevant personnel
- Quality control of raw materials
- Conduct test at each development stage
- Fully verify product performance
- Train and promote employees on quality requirement and awareness, in-process controls.
- Control each production process, and final inspection and acceptance of the finished goods.
- Incorporate client feedback promptly and accurately and make necessary adjustments.
- Record and save all test documents



Typical Applications



Sanitation equipment



Material handling



Wind energy



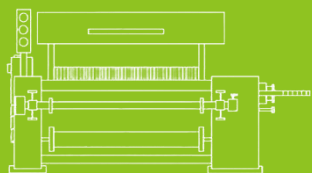
Forging Machinery



Marine



Mining machinery



Textile machinery



Paper industry



Machine tools



Steel industry



Construction machinery



Agricultural machines

Notes

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Suction Filters

	Series	Description	Port Sizes	Pressure	Flow rate
	EEST	Suction Strainers	G1/2 G3/4 G1 G1 ¼ G1 ½ G2 G2 ½ G3		500 l/min
	EFSP	Suction Filters	G1 ¼ SAE DN40 3000PSI		100 l/min
	EFSS	Suction line spin-on filter	G3/4 G1 ¼ ¾ NPT 1 ¼ NPT		50 l/min
	EFSE	Suction filter	Ø 48.5 mm Ø 59.5 mm Ø 61.0 mm Ø 89.5 mm Ø 90.5 mm Ø 100.0 mm Ø 114.5 mm Ø 154.5 mm		1400 l/min
	EFSU	Suction filter	G1½" M48*2 SAE DN40 3000PSI SAE DN65 3000PSI SAE DN90 3000PSI		990 l/min
	EFSR	Suction filter	SAE DN65 3000PSI SAE DN80 3000PSI SAE DN100 3000PSI		600 l/min

Pressure Filters

	Series	Description	Port Sizes	Pressure	Flow rate
	EFPS	Pressure/return line spin-on filter	G3/4 G1¼ ¾ NPT 1½ NPT	12 bar	250 l/min
	EFPP	Medium pressure spin-on filter	G3/4 G1 G1¼ ¾ NPT 1 NPT 1 ¼ NPT	35 bar	190 l/min
	EFPG	In-line medium pressure filter	SAE DN40 3000PSI SAE DN50 3000PSI G1/2 G3/4 G1¼ G1½ M48*2	70 bar	660 l/min
	EFPL	In-line medium pressure filter	G1/2 G1 M18*1.5 M33*2	110 bar	160 l/min
	EFPR	In-line high pressure filter	G1/2 G3/4 G1 G1¼ M18*1.5 M27*2 M33*2	210 bar	240 l/min
	EFPB	In-line high pressure filter	G1/2 G3/4 M22*1.5	315 bar	120 l/min

Pressure Filters

	Series	Description	Port Sizes	Pressure	Flow rate
	EFPM	In-line high pressure filter	G3/4 G1¼ G1½ SAE DN20 6000PSI SAE DN32 6000PSI SAE DN50 6000PSI	420 bar	680 l/min
	EFPQ	In-line high pressure filter	G1½ G2 SAE DN50 6000PSI M48*2 SAE DN40 3000PSI SAE DN50 3000PSI	420 bar	680 l/min
	EFPU	In-line high pressure filter	G1/2 G3/4 G1 G1¼ G1½ ½ NPT ¾ NPT 1NPT 1¼ NPT 1½ NPT SAE DN20 6000PSI SAE DN32 6000PSI SAE DN25 3000PSI SAE DN32 3000PSI SAE DN40 3000PSI	420 bar	400 l/min
	EFPT	In-line pressure filter	G1 G1¼ G1½ SAE DN32 3000PSI SAE DN40 3000PSI SAE DN50 3000PSI SAE DN65 3000PSI	60 bar	1300 l/min

Return Filters

	Series	Description	Port Sizes	Pressure	Flow rate
	EFRN	Tank-top return filter	G1/2 G3/4 G1 G1 ¼ G1 ½ G2	8 bar	450 l/min
	EFRB	Tank-top return filter	G1/2 G3/4 G1 G1 ½ SAE DN40 3000PSI SAE DN50 3000PSI SAE DN80 3000PSI	10 bar	500 l/min
	EFRE	Combined tank-top return filter	G1 ¼ SAE16	10 bar	130 l/min
	EFRC	Tank-top return filter	G1 ¼ SAE DN40 3000PSI SAE DN65 3000PSI	10 bar	800 l/min
	EFRR	Tank integrated return filter		10 bar	2400 l/min
	EFRD	Tank-top return filter	G1 ½ G2 ½ NPT1 ½ NPT2 ½ SAE DN40 3000PSI SAE DN65 3000PSI	20 bar	650 l/min
	EFRH	Tank-top return filter	G3/4 G1 ¼ G2 SAE DN50 3000PSI SAE DN80 3000PSI SAE DN90 3000PSI SAE DN100 3000PSI	25 bar	1300 l/min
	EFRL	Tank-top return filter	G1 ½ M48*2 SAE DN40 3000PSI SAE DN65 3000PSI SAE DN90 3000PSI	16 bar	990 l/min

Suction /Return Filters

	Series	Description	Port Sizes	Pressure	Flow rate
	EFTS	Suction /Return Filters	G1	10 bar	80 l/min

Manifold Mounting Filters

	Series	Description	Port Sizes	Pressure	Flow rate
	EFMF	Manifold mounting high pressure filter	14 mm 20 mm 30 mm 32 mm	315 bar	550 l/min
	EFMP	Manifold mounting high pressure filter	17.5 mm 30 mm	315 bar	400 l/min
	EFMT	Manifold mounting high pressure filter	15 mm	315 bar	110 l/min
	EFPI	Sandwich Stacking high pressure filter	A6 DIN24340/CETOP R35H A10 DIN24340/CETOP R35H	315 bar	110 l/min

Duplex Filters

	Series	Description	Port Sizes	Pressure	Flow rate
	EFDA	In-line low pressure duplex filter	G1/2 G3/4 G1 G1 ¼ G1 ½ SAE DN40 3000PSI	70 bar	400 l/min
	EFDM	In-line high pressure duplex filter	G3/4 G1 ¼ G1 ½ SAE DN40 3000PSI	210 bar	400 l/min
	EFDL	Change-Over Inline Filters	G1 G1 ½ SAE DN25 3000PSI SAE DN40 3000PSI SAE DN50 3000PSI SAE DN65 3000PSI SAE/DIN DN80 SAE/DIN DN100	25 bar	1300 l/min
	EFDB	Change-Over Inline Filters	SAE DN40 3000PSI SAE DN50 3000PSI SAE DN65 3000PSI SAE/DIN DN80 SAE/DIN DN100 DIN DN125 DIN DN150 DIN DN200 DZN DN250	25 bar	15000 l/min
	EFDP	Change-Over Inline Filters	G1/2 G3/4 G1 ½ SAE DN50 6000PSI	315 bar	600 l/min
	EFDR	Change-Over Return line Filters	G3/4 G1 G2 SAE DN50 3000PSI SAE DN80 3000PSI SAE DN100 3000PSI	25 bar	1300 l/min

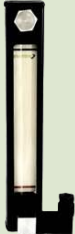
Air breathers

	Series	Description	Port Sizes	Pressure	Flow rate
	EFB	Air breather filter with flange connection	41 mm 73 mm		750 l/min
	EFB	Air breather filter with threaded connection	G1/4 G3/4		750 l/min
	EFB162	Air breather filter with threaded connection	M12*1.5 G1/4		55 l/min
	EFT008	Air breather filter	73 mm		1800 l/min
	EFB	Air breather filter with spin-on element	Welding connector 73 mm		2800 l/min
	EFD	Breather Dryer	G3/4 G1 G1 ¼ G1 ½ G2 NPT1		600 l/min
	EFD	Breather Dryer	G3/4 G1 G1 ¼		1500 l/min

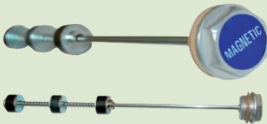
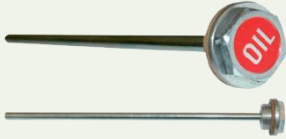
Level switches

	Series	Description	Port Sizes
	EAVL-L	Electromagnetic level switches Temperature: -20° C to 80° C Instrument plug: DIN43650A Ingress Protection: IP65 Current: max. 1.5 A Voltage: max. 220 VAC / 50 VDC	G1 F42 flange M20*1.5
	EAVL-D	Electromagnetic level switches Temperature: -20° C to 80° C Instrument plug: DIN43650A Ingress Protection: IP65 Current: max. 1.5 A Voltage: max. 220 VAC / 50 VDC	G1 F42 flange M20*1.5
	EAVL-H	Electromagnetic level switches Temperature: -20° C to 80° C Instrument plug: DIN43650A Ingress Protection: IP65 Current: max. 1.5 A Voltage: max. 220 VAC / 50 VDC	G1 F42 flange M20*1.5
	EAVL-T	Level switches with thermo switch Temperature: -20° C to 80° C Instrument plug: DIN43650A Ingress Protection: IP65	G1 F42 flange M20*1.5
	EAVE	Temperature transmitter Temperature: -20° C ~ 85° C Instrument plug: EAVE-I: M12*1-6g EAVE-P: DIN43650A Ingress Protection: IP65 Voltage: 24VDC Measurement accuracy: 0.5%FS Output signal: 4~20mA Measuring range(Optional): -100 °C ~500°C	M20*1.5

Level gauge

	Series	Description	Length
	EAVT EAVT-I	Level gauge Level gauge with optional internal thermometer	076
			080
			100
			127
			150
			176
			200
			254
			381
	EAVT-G	Level gauge with temperature gauge	076
			080
			100
			127
			150
			176
			200
			254
			381
	EAVT-S	Level gauge with thermo switch	076
			080
			100
			127
			150
			176
			200
			254
			381
	EAVT-L	Level Sensor	127
			150
			176
			200
			254
			381
	EAVT-LG	Level Sensor with temperature gauge	127
			150
			176
			200
			254
			381
	EAVT-LS	Level Sensor with thermo switch	127
			150
			176
			200
			254
			381

Tank plugs

	Series	Description	Port Sizes
	EAPD EAPA	Metal tank plugs Metal tank plugs with breather	G1/8 M10*1 G1/4 M14*1.5 G3/8 M16*1.5 G1/2 M18*1.5 G3/4 M20*1.5 G1 M22*1.5
	EAPM	Metal plugs with permanent magnet	G1/4 M14*1.5 G3/8 M16*1.5 G1/2 M18*1.5 G3/4 M20*1.5 G1 M22*1.5
	EAPS	Metal plug with level rod and magnetic elements	G1
	EAPN	Metal plugs with level rod	G1/8 M10*1 G1/4 M14*1.5 G3/8 M16*1.5 G1/2 M18*1.5 G3/4 M20*1.5 G1 M22*1.5
	EAPP	Visual oil level indicator plug	G1/4 M14*1.5 G3/8 M16*1.5 G1/2 M18*1.5 G3/4 M22*1.5 G1 G1 ¼ G1 ½
	EAPB	Breather plug with valve	G1/8 M10*1 G1/4 M12*1.5 G3/8 M14*1.5 G1/2 M16*1.5 G3/4 M18*1.5 M20*1.5 M22*1.5
	EAPE	Silencer plug with PAD	G1/8 G1/4 G3/8 G1/2
	EAPV	Visual oil level indicator plugs	G1/4 M16*1.5 G3/8 M20*1.5 G1/2 M25*1.5 G3/4 M26*1.5 G1 M27*1.5 G1 ¼ M30*1.5 M35*1.5 M40*1.5
	EAPC	Visual oil level indicator plugs	G1/4 G3/8 G1/2 G3/4 G1
	EAPR	Visual oil level indicator plugs	G3/8 G1/2 G3/4 G1 G1 ¼

Hydraulic Components

	Series	Description	Port Sizes	Pressure	Flow rate
	EVCD-CV08P EVCD-CV10P EVCD-CV12-20 EVCD-CV16-20	Check Valve	VC08-2 VC10-2 VC12-2 VC16-2	250 bar 350 bar 240bar 240bar	20 l/min 38 l/min 95 l/min 151 l/min
	EVCD-PC08-30 EVCD-PC10-30 EVCD-CKCB EVCD-CKEB EVCD-CKBB	Pilot Check Valve	VC08-3 VC10-3 T-11A T-2A T-163A	240 bar 240 bar 350 bar 350 bar 350 bar	23 l/min 30 l/min 60 l/min 120 l/min 30 l/min
	EVCD-SLV08 EVCD-LS10-30	Shuttle Valve	VC08-3 VC10-3	240 bar	15 l/min 30 l/min
	EVCD-DPC2-08 EVCD-DPC10	Dual Pilot-operated Check Valve	VC08-4 VC10-4	207 bar 240 bar	19 l/min 30 l/min
	EVCP-RV08 EVCP-RV08-20 EVCP-NRV08 EVCP-RV10 EVCP-RV10-20 EVCP-RDFA	Direct Acting Relief Valve	VC08-2 VC08-2 VC08-2 VC10-2 VC10-2 T-3A	250 bar 250 bar 350 bar 315 bar 230 bar 350 bar	10 l/min 23 l/min 30 l/min 10 l/min 38 l/min 200 l/min
	EVCP-RAH10 EVCP-RV5-16 EVCP-RV10-28	Pilot-operated Relief Valve	VC10-2 VC16-2 VC10-2	380 bar 350 bar 240 bar	113 l/min 303 l/min 113 l/min
	EVCP-DPR08 EVCP-DPR10	Direct acting Pressure Reducing /Relieving Valve	VC08-3 VC10-3	207 bar	11 l/min 30 l/min
	EVCP-PR08 EVCP-PR10-36A EVCP-PR50-36	Pilot-operated Pressure Reducing /Relieving Valve	VC08-3 VC10-3 VC10-3	350 bar 210 bar 350 bar	23 l/min 57 l/min 55 l/min

Hydraulic Components

	Series	Description	Port Sizes	Pressure	Flow rate
	EVCP-CBCG EVCP-CBEG EVCP-CBGG	Counterbalance Valve (4.5:1)	T-11A T-2A T-17A	350 bar	60 l/min 120 l/min 240 l/min
	EVCF-NV2-08 EVCF-NV2-10	Throttle Valve	VC08-2 VC10-2	250 bar	30 l/min 45 l/min
	EVCF-FC08 EVCF-FC10	Throttle Check Valve	VC08-2 VC10-2	250 bar	18 l/min 45 l/min
	EVCE-SV08-24 EVCE-SV10-24 EVCE-SV08-25 EVCE-SV10-25	Solenoid Directional Valve 2-way 2-position Spool-type	VC08-2 VC10-2 VC08-2 VC10-2	207 bar	17 l/min 38 l/min 9.5 l/min 22.7 l/min
	EVCE-SV08-28 EVCE-SV10-28 EVCE-SV12-28	Solenoid Directional Valve Normally closed, poppet-type 2-way 2-position Bi-directional blocking	VC08-2 VC10-2 VC12-2	207 bar 240 bar 240 bar	19 l/min 75.7 l/min 113.6 l/min
	EVCE-SV6-08-2NO EVCE-SV6-10-2NO EVCE-SV6-12-2NO	Solenoid Directional Valve Normally open, poppet-type 2-way 2-position Bi-directional blocking	VC08-2 VC10-2 VC12-2	350 bar	50 l/min 70 l/min 150 l/min
	EVCE-SV2-08-2NC EVCE-SV2-10-2NC	Solenoid Directional Valve Normally closed, poppet-type 2-way 2-position	VC08-2 VC10-2	207 bar	23 l/min 57 l/min
	EVCE-SV2-08-2NO EVCE-SV2-10-2NO EVCE-SV12-21	Solenoid Directional Valve Normally open, poppet-type 2-way 2-position	VC08-2 VC10-2 VC12-2	207 bar 207 bar 240 bar	30 l/min 68 l/min 113.6 l/min

Hydraulic Components

	Series	Description	Port Sizes	Pressure	Flow rate
	EVCE-SV2-08-2NCR EVCE-SV2-10-2NCR	Solenoid Directional Valve Normally closed, poppet-type 2-way 2-position	VC08-2 VC10-2	207 bar	23 l/min 56.8 l/min
	EVCE-SV2-08-2NOR EVCE-SV2-10-2NOR	Solenoid Directional Valve Normally open, poppet-type 2-way 2-position	VC08-2 VC10-2	207 bar	30 l/min 68 l/min
	EVCE-SV10-34 EVCE-SV12-34 EVCE-SV08-31 EVCE-SV10-31 EVCE-SV08-33 EVCE-SV10-33	Solenoid Directional Valve 3-way 2-position Spool-type	VC10-3 VC12-3 VC08-3 VC10-3 VC08-3 VC10-3	207 bar	22.7 l/min 60 l/min 11.4 l/min 22.7 l/min 11.4 l/min 18.9 l/min
	EVCE-SV2-08-4CO EVCE-SV2-08-4NC EVCE-SV2-08-4TC EVCE-SV10-40 EVCE-HF08-242 EVCE-HF10-242	Solenoid Directional Valve 4-way 2-position Spool-type	VC08-4 VC08-4 VC08-4 VC10-4 VC08-4 VC10-4	207 bar 207 bar 207 bar 350 bar 210 bar 210 bar	11.4 l/min 11.4 l/min 11.4 l/min 70 l/min 11.4 l/min 22.4 l/min
	EVCE-SV08-47A EVCE-SV10-47A EVCE-SV08-47B EVCE-SV10-47B EVCE-SV08-47C EVCE-SV10-47C EVCE-SV08-47D EVCE-SV10-47D	Solenoid Directional Valve 4-way 3-position Spool-type	VC08-4 VC10-4 VC08-4 VC10-4 VC08-4 VC10-4 VC08-4 VC10-4	210 bar 240 bar 210 bar 240 bar 207 bar 240 bar 207 bar 240 bar	11.4 l/min 19 l/min 11.4 l/min 22.7 l/min 11.4 l/min 23 l/min 11.4 l/min 23 l/min
	EVPI-A	Pressure Switch		650 bar	
	EVPI-B	Pressure Switch		650 bar	
	EVPI-C	Pressure Switch		650 bar	

Ball Valves

Description	Connections	Series	DN	Nominal pressure
2-way ball valves with threaded connections 	Female BSP thread (DIN ISO 228) Female NPT thread (ANSI B1.20.1) Female UN/UNF thread (SAE J 514) 24° Cone Connection light Series (DIN 2353 / ISO 8434-1) 24° Cone Connection Heavy Series (DIN 2353 / ISO 8434-1)	EHAB EHAM	DN04~25 DN32~50	315~500 bar 315 bar
Flanged Ball Valves with DIN Connections 	DIN-EN 558-1 - FTF, basic range 1 (DIN 3202 – F1, long version)	EHFB EHFM	DN16~25 DN32~50	40~315 bar 40~315 bar
Flanged Ball Valves with SAE Connections 	SAE split flanges	EHSB EHSM	DN13~25 DN32~50	350~400 bar 210~350 bar
Ball Valves with SAE threaded flange 	SAE threaded flange (ISO6162, SAE-J518)	EHGB EHGM	DN13~25 DN32~65	210~420 bar 175~350 bar
SAE fixed flange ball valves 	SAE fixed flange : ISO 6162, tables 1 and 2 (SAE J 518C)	EHFF	DN15~50 DN65~125	210~420 bar 35~175 bar
Direct flange ball valves 	SAE fixed flange : ISO 6162, tables 1 and 2 (SAE J 518C)	EHFZ	DN25~50	210~420 bar
Three-Way Ball Valves 	Female BSP thread (DIN ISO 228) Female NPT thread (ANSI B1.20.1) Female UN/UNF thread (SAE J 514) 24° Cone Connection light Series (DIN 2353 / ISO 8434-1) 24° Cone Connection Heavy Series (DIN 2353 / ISO 8434-1)	EHTB	DN04~50	315 bar

Ball Valves				
Description	Connections	Series	DN	Nominal pressure
Three Way Compact Ball Valve With SAE Connection 	SAE fixed flange : ISO 6162, tables 2 (SAE J 518C)	EHTF	DN32~65	315~350 bar
3-way and 4-way ball valves with threaded connections 	Female BSP thread (DIN ISO 228) Female NPT thread (ANSI B1.20.1) Female UN/UNF thread (SAE J 514) 24° Cone Connection light Series (DIN 2353 / ISO 8434-1) 24° Cone Connection Heavy Series(DIN 2353 / ISO 8434-1)	EHTT	DN04~20	315~500 bar
Manifold mounted Ball Valves 	Manifold mounted	EHPB	DN06~50	315~500 bar
3-Way and 4-Way Manifold Mounted Ball Valves 	Manifold mounted	EHPT	DN06~20	250~400 bar
Accessories				
Limit / Proximity Switches 	Limit switch(roller plunger) Limit switch(roller lever) Inductive proximity switch			
Levers 	Zinc Alloy Bent Levers Steel Straight Levers Steel Bent Levers		SW9~14 SW9~17 SW9~17	
Locking Device 				

Wedge Lock Washers

WEDGE LOCKING SYSTEMS DOUBLE SECURITY

To ensure the integrity of fastener thread systems, Evo-lock security system works by using tension rather than friction, which has been the basis for most traditional fastening methods. This ensures the securing of threaded systems. Evo-Lock security system consists of two identical flat washers which have a set of cams on one side and radial teeth on the other side.

Evo-Lock washers secure bolted joints with tension instead of friction. The system is comprised of a pair of washers that has cams on one side and radial teeth on the opposite side. Since the cam angle ' α ' is greater than the thread pitch ' β ' a wedge effect is created by the cams, preventing the bolt from rotating loose.

PERFORMANCE

The Evo-Lock washers ensure proper fastening performance for joints under extreme vibrations or dynamic loads. The exceptional securing performances of Evo-Lock washers are guaranteed by the following technical features:

- The unique cam angle α of the washer is larger than the pitch angle β of the screw thread.
- The friction coefficient of the radial teeth surface of the washer is much higher than the friction coefficient of the cam surface.
- The hardness of Evo-Lock washers is higher than the strength of all classes of bolt/nut (8.8, 10.9 and 12.9).
- This unique cam system uses tension to create high force in a fastened joint that is subjected to vibrations.

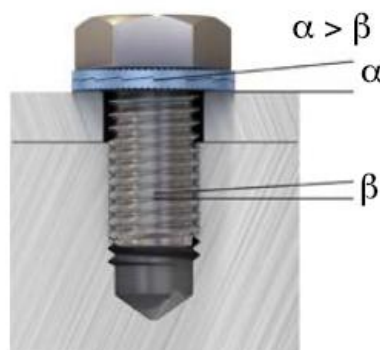
The test showed that the washers safely lock screws/bolt connections: the clamp force stays almost constant after 2000 cycles and just a minimal amount of tension dissipates at the beginning of the test due to the normal settlement of the fastened joint.

APPLICATIONS

Evo-Lock washers are used in industries such as: energy, transportation, offshore, mining and quarrying, construction and bridge building, manufacturing and processing, ship building, forestry and agriculture, heavy vehicles, and military. The number of industries that use washers are continuously growing. Often joints do not start to loosen until an application is in regular use, therefore Our washers are commonly retrofitted during maintenance, repair and overhaul procedures.

FUNCTIONAL PRINCIPLE

The angle of inclination α of the washer cam is bigger than the pitch β of the screw thread. When the fastener is tightened, the radial teeth surfaces grip both the bearing surface of the fastener and the material into which the screw is being fastened. The larger angle of the cam α , compared to the smaller angle of the screw thread β , will not allow the screw to loosen because of the tension caused by the cam lifting.



Wedge locking technology

