



## // INDUSTRIAL FITTINGS MANUAL

## // COMPRESSED AIR


## // EXPRESS NF E 29.573

	<b>CONNECTION TYPE</b> <b>Symmetric coupling system</b> The two symmetrical half-couplings have two claws each, which are connected by pushing them together and rotating the two claws to be 45° apart to form a seal.	<b>WP = 10 bar</b>
	<b>INSERT TYPE</b> Serrated insert with safety collar.	<b>APPLICATION</b> For air compressed and water applications.
	<b>RECOMENDED FERRULE/CLAMPS (SEE TABLE A-B)</b> <ul style="list-style-type: none"> <li>Express clamps - 2 gripping finger type</li> <li>Worm gear clamp</li> <li>Crimping ring</li> </ul>	<b>WARNING &amp; NOTE</b> Internal claw distance = 41 mm. Not interchangeable with Geka couplings and with other compressed air claw couplings (type A, type B, type S). Not to be used for steam application. As the connecting heads are the same on all parts, hose and threads of all dimensions can be connected together with no adaptors being required.


## // TYPE A CLAW COUPLING (EUROPEAN TYPE)

	<b>CONNECTION TYPE</b> <b>Symmetric coupling system</b> The two symmetrical half-couplings have two claws each, which are connected by pushing them together and rotating the two claws to form a seal.	<b>WP = 10 bar</b>
	<b>INSERT TYPE</b> Serrated insert with safety collar.	<b>APPLICATION</b> For air compressed and water applications.
	<b>RECOMENDED FERRULE/CLAMPS (SEE TABLE A-B)</b> <ul style="list-style-type: none"> <li>Claw Clamps Type A - DIN 20039B</li> <li>Worm Gear Clamp</li> <li>Two Bolt Saddle Clamp</li> <li>Crimping Ring</li> </ul> Australian version: serrated ferrule for compressed air Type S	<b>WARNING &amp; NOTE</b> Internal claw distance = 42 mm. Not interchangeable with Express, Geka couplings and with other compressed air claw couplings (type B, type S). Not to be used for steam application. As the connecting heads are the same on all parts, hose and threads of all dimensions can be connected together with no adaptors being required.


## // TYPE A CLAW COUPLING (EUROPEAN TYPE)

	<b>CONNECTION TYPE</b> <b>Symmetric coupling system</b> The two symmetrical half-couplings have two claws each, which are connected by pushing them together and rotating the two claws to form a seal. <b>For extra security, the presence of a safety pin inserted in the holes prevents accidental opening.</b>	<b>WP = 10 bar</b> <b>Australian version</b> <b>WP = 17.5 bar</b> as per AS 2660/A requirements for air and water.
	<b>INSERT TYPE</b> Serrated insert with safety collar.	<b>APPLICATION</b> For air compressed and water applications.
	<b>RECOMENDED FERRULE/CLAMPS (SEE TABLE A-B)</b> <ul style="list-style-type: none"> <li>Claw Clamps Type A - DIN 20039B</li> <li>Worm Gear Clamp</li> <li>Two Bolt Saddle Clamp</li> <li>Crimping Ring</li> </ul> Australian version: serrated ferrule for compressed air Type S	<b>WARNING &amp; NOTE</b> Internal claw distance = 42 mm. Not interchangeable with Express, Geka couplings and with other compressed air claw couplings (type B, type S). Not to be used for steam application. As the connecting heads are the same on all parts, hose and threads of all dimensions can be connected together with no adaptors being required.

## // TYPE B CLAW COUPLING (U.S. TYPE)


	<b>CONNECTION TYPE</b> <b>Symmetric coupling system</b> The two symmetrical half-couplings have two claws each, which are connected by pushing them together and rotating the two claws to form a seal. <b>For extra security, the presence of a safety pin inserted in the holes prevents accidental opening.</b>	<b>WP = 10 bar</b>
	<b>INSERT TYPE</b> Serrated insert with safety collar.	<b>APPLICATION</b> For air compressed and water applications.
	<b>RECOMENDED FERRULE/CLAMPS (SEE TABLE A-B)</b> <ul style="list-style-type: none"> <li>Claw Clamps Type B</li> <li>Crimping ring</li> </ul>	<b>WARNING &amp; NOTE</b> Internal claw distance = 41 mm. Not interchangeable with Express, Geka couplings and with other compressed air claw couplings (type A, type S). Not to be used for steam application. As the connecting heads are the same on all parts, hose and threads of all dimensions can be connected together with no adaptors being required.

## // TYPE S CLAW COUPLING (AUSTRALIAN TYPE)


	<b>CONNECTION TYPE</b> <b>Symmetric coupling system</b> The two symmetrical half-couplings have two claws each, which are connected by pushing them together and rotating the two claws to form a seal. <b>For extra security, the presence of a safety pin inserted in the holes prevents accidental opening.</b>	<b>WP = 17.5 bar</b> as per AS 2660/A requirements for air and water.
	<b>INSERT TYPE</b> Serrated insert with safety collar.	<b>APPLICATION</b> For air compressed and water applications.
	<b>RECOMENDED FERRULE/CLAMPS (SEE TABLE A-B)</b> <ul style="list-style-type: none"> <li>Claw Clamps Type S - Australian Type</li> <li>Claw Clamps Type S - Australian Type with Safety Chain</li> <li>Serrated Ferrule for Compressed Air Type S</li> </ul>	<b>WARNING &amp; NOTE</b> Internal claw distance = 45-74-117 mm (different for each DN). Not interchangeable with Express, Geka couplings and with other compressed air claw couplings (type A, type B).

## // WATER


## // TYPE GK CLAW COUPLING

	<p><b>CONNECTION TYPE</b></p> <p><b>Symmetric coupling system</b></p> <p>The two symmetrical half-couplings have two claws each, which are connected by pushing them together and rotating the two claws to form a seal.</p>	<p><b>WP = 10 bar</b></p>
	<p><b>INSERT TYPE</b></p> <p>Serrated insert without locking collar.</p>	<p><b>APPLICATION</b></p> <p>For agricultural, gardening, irrigation, construction and public service applications.</p>
	<p><b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B)</p> <ul style="list-style-type: none"> <li>• Band-it system</li> <li>• Clamps</li> <li>• Worm gear clamp</li> <li>• Crimping ring</li> <li>• Smooth ferrule</li> </ul>	<p><b>WARNING &amp; NOTE</b></p> <p>Internal claw distance = 40 mm.</p> <p>Not interchangeable with Express couplings and with other compressed air claw couplings (type A, type B, type S). Not to be used for steam application. As the connecting heads are the same on all parts, hose and threads of all dimensions can be connected together with no adaptors being required.</p>


## // TYPE B - BAUER COMPATIBLE

	<p><b>CONNECTION TYPE</b></p> <p><b>Asymmetric coupling system:</b> <b>male &amp; female part</b></p> <p>The male fitting has a double pin closure lever for smoother closing action. The male fitting is inserted into the female fitting and the joint closed by latching the lever over the head of the female fitting.</p>	<p><b>WP = 20 bar (DN 50mm / 89mm)</b> <b>WP = 12 bar (DN 108mm / 300mm)</b></p>
	<p><b>INSERT TYPE</b></p> <p>Ridged insert for clamps.</p>	<p><b>APPLICATION</b></p> <p>For different applications like: agriculture, irrigation, road construction, water delivery in the mines, suction line, civil projects, dewatering, by pass lines, chemical and food industry. Used in a wide range of water related applications and activities such as gully emptiers, sewage systems, fertiliser spraying and general water pumping.</p>
	<p><b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B)</p> <ul style="list-style-type: none"> <li>• Band-it system</li> <li>• Clamps</li> <li>• Pw-clamp</li> </ul>	<p><b>WARNING &amp; NOTE</b></p> <p>Not interchangeable with type C - Cardan / Perrot compatible couplings.</p>


## // TYPE C - CARDAN/PERROT COMPATIBLE

	<b>CONNECTION TYPE</b> <b>Asymmetric coupling system:</b> <b>male &amp; female part</b> The female fitting incorporates a thick o-ring seal and a closure lever with two-claws. The male fitting is inserted into the female fitting and the joint closed by latching the lever over the conical head of the male fitting.	<b>WP = 12 bar</b>
	<b>INSERT TYPE</b> Ridged insert for clamps.	<b>APPLICATION</b> For agricultural, irrigation, cleaning and construction applications. Most commonly used with systems carrying water, mortar, bitumen, bulk products. They assure the delivery of several media like: potable drinking water, waste water, sludge, bentonite, cement, compressed air in the most various applications like the food, pharmaceutical and chemical industries, irrigation, mining and tunneling, civil projects and dewatering.
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Band-it system</li> <li>• Clamps</li> <li>• Pw-clamp</li> </ul>	<b>WARNING &amp; NOTE</b> Not interchangeable with type B - Bauer compatible couplings.

## // VIDANGE


	<b>CONNECTION TYPE</b> <b>Asymmetric coupling system:</b> <b>male &amp; female part</b>	<b>WP = 6 bar</b>
	<b>INSERT TYPE</b> Serrated insert without locking collar.	<b>APPLICATION</b> For water applications.
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Band-it system</li> <li>• Clamps</li> <li>• Pw-clamp</li> <li>• Smooth Ferrule</li> </ul>	<b>WARNING &amp; NOTE</b> /

## // TYPE 42


	<b>CONNECTION TYPE</b> Asymmetric coupling system: male & female part	<b>WP</b> = 12 bar (liquids)
	<b>INSERT TYPE</b> Ridged insert for clamps.	<b>APPLICATION</b> For water applications (irrigation systems). For different applications like: chemical industry, paper industry, process industry, for mobile water pipes in mining, steel and heavy industry. On sewage vehicles, on trucks for bulk transport of granulates (grain, flour, feed, pellets), concrete and minerals.
	<b>RECOMMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Clamps</li> </ul>	<b>WARNING &amp; NOTE</b> Not interchangeable with type B - Bauer compatible couplings. Not interchangeable with type C - Cardan / Perrot compatible couplings.

## // HYGIENIC - FOOD


## // SMS 1145

	<p><b>CONNECTION TYPE</b></p> <p><b>Asymmetric coupling system: male &amp; female threaded end</b></p> <p>SMS food couplings are connected in the same way as DIN 11851 food couplings. The nut is slid across the head of the female coupling and onto the male coupling. The flat face of the female coupling is brought into contact with the turned-up seal of the male coupling. The nut is then tightened by hand or using a wrench. Threaded food couplings complying with SMS have a rounded thread complying with DIN 405/1. This rounded thread ensures that SMS food couplings are easy to connect by hand or using a wrench.</p>	<p><b>WP = 6 bar</b></p>
	<p><b>INSERT TYPE</b></p> <p>Serrated insert with EN 14 420-2 / DIN 2817 collar.</p>	<p><b>APPLICATION</b></p> <p>Used in food, beverage, chemical and pharmaceutical industries.</p>
	<p><b>RECOMENDED FERRULE/CLAMPS (SEE TABLE A-B)</b></p> <ul style="list-style-type: none"> <li>• Serrated ferrule for hygienic coupling</li> </ul>	<p><b>WARNING &amp; NOTE</b></p> <p>Supplied in Stainless Steel in order to meet the specifications of the Food Processing, Brewing, Dairy and Pharmaceutical industries.</p> <p>Food couplings complying with SMS (Swedish Manufacturing Standard) are not interchangeable with DIN 11851 food couplings. Although the threads of both couplings comply with DIN 405/1, precise dimensions vary, making them non-interchangeable.</p> <p>Female coupling = flat face Male coupling = turned-up seal Seal = square seal</p>


// DIN 11851

	<p><b>CONNECTION TYPE</b></p> <p><b>Asymmetric coupling system: male &amp; female threaded end</b></p> <p>The seal must be inserted correctly into the seal sitting of the male coupling before connection. The conical female coupling is then pushed onto the male threaded coupling. The two are secured by sliding the nut across the conical head of the female coupling and onto the thread of the male coupling. The flanged seal enables easy assembly and prevents any displacement by vacuum or pressure. Threaded food couplings complying with DIN 11851 have a rounded thread complying with DIN 405/1. This rounded thread ensures that DIN 11851 compliant food couplings are easy to connect by hand or using a wrench.</p>	<p><b>WP</b> = 40 bar / 25 bar (DN 15 mm / 100 mm)</p>
	<p><b>INSERT TYPE</b></p> <p>EN 14 420-2 / DIN 2817 smooth insert with collar.</p>	<p><b>APPLICATION</b></p> <p>Used in food, beverage, pharmaceutical and chemical industries.</p>
	<p><b>RECOMENDED FERRULE/CLAMPS (SEE TABLE A-B)</b></p> <ul style="list-style-type: none"> <li>• Safety clamps en 14 420-3 / din 2817</li> <li>• Safety clamps flexoline®</li> <li>• Serrated ferrule for hygienic coupling</li> </ul>	<p><b>WARNING &amp; NOTE</b></p> <p>Supplied in Stainless Steel in order to meet the specifications of the Food Processing, Brewing, Dairy and Pharmaceutical industries.</p> <p>Food couplings complying with DIN 11851 are not interchangeable with SMS food couplings. Although the threads of both couplings comply with DIN 405/1, precise dimensions vary, making them non-interchangeable.</p> <p>Female coupling = conical face Male coupling = deep seal Seal = U-shape seal</p>

// DIN 11851

	<p><b>CONNECTION TYPE</b></p> <p><b>Asymmetric coupling system: male &amp; female threaded end</b></p> <p>The seal must be inserted correctly into the seal sitting of the male coupling before connection. The conical female coupling is then pushed onto the male threaded coupling. The two are secured by sliding the nut across the conical head of the female coupling and onto the thread of the male coupling. The flanged seal enables easy assembly and prevents any displacement by vacuum or pressure. Threaded food couplings complying with DIN 11851 have a rounded thread complying with DIN 405/1. This rounded thread ensures that DIN 11851 food couplings are easy to connect by hand or using a wrench.</p>	<p><b>WP</b> = 40 bar / 25 bar (DN 15 mm / 100 mm)</p>
	<p><b>INSERT TYPE</b></p> <p>Serrated insert with EN 14 420-2 / DIN 2817 collar.</p>	<p><b>APPLICATION</b></p> <p>Used in food, beverage, pharmaceutical and chemical industries.</p>
	<p><b>RECOMENDED FERRULE/CLAMPS (SEE TABLE A-B)</b></p> <ul style="list-style-type: none"> <li>• Serrated ferrule for hygienic coupling</li> </ul>	<p><b>WARNING &amp; NOTE</b></p> <p>Supplied in Stainless Steel in order to meet the specifications of the Food Processing, Brewing, Dairy and Pharmaceutical industries.</p> <p>Food couplings complying with DIN 11851 are not interchangeable with SMS food couplings. Although the threads of both couplings comply with DIN 405/1, precise dimensions vary, making them non-interchangeable.</p> <p>Female coupling = conical face Male coupling = deep seal Seal = U-shape seal</p>


## // MACON

	<b>CONNECTION TYPE</b> Asymmetric coupling system: male & female threaded end	<b>WP</b> = 10 bar
	<b>INSERT TYPE</b> Serrated insert with locking collar.	<b>APPLICATION</b> Especially designed for wine industry in France.
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>Serrated ferrule for hygienic coupling</li> </ul>	<b>WARNING &amp; NOTE</b> -




## // STEAM


## // EN 14 423 / DIN 2826

	<b>CONNECTION TYPE</b> <b>Asymmetric coupling system:</b> <b>male &amp; female threaded end</b>  <b>Symmetric coupling system:</b> <b>flanged end</b>  Steam couplings complying with EN 14423/ DIN 2826 are available in female and male threaded screw couplings and in flanged couplings.	<b>WP max</b> = 18 bar with a temperature of 210°C / BP=180 bar
	<b>INSERT TYPE</b> EN 14 423 / DIN 2826 serrated insert with collar.	<b>APPLICATION</b> To be used for saturated steam (up to +210° C) and hot water (up to +120° C) with a working pressure up to 18 bar.
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Safety clamps EN 14 423 / DIN 2826</li> </ul>	<b>WARNING &amp; NOTE</b> Steam couplings complying with EN 14423 / DIN 2826 are used to assemble steam hoses complying with EN ISO 6134. The serrated hose shank with collar is designed to be assembled with steam clamps complying with EN 14423 / DIN 2826. Under no circumstances safety clamps EN 14420-3 / DIN 2817 shall be used. Compared with EN 14420-2 / DIN 2817 smooth hose shanks, steam hose shanks complying with EN 14423 / DIN 2826 are serrated and are physically longer and larger.

## // GROUND JOINT SEAL


	<b>CONNECTION TYPE</b> <b>Asymmetric coupling system:</b> <b>male &amp; female threaded end</b>  The coupling system consists of a male threaded insert (with a serrated hose shank with safety collar for safety clamps) and a female threaded complete coupling composed by 3 elements: a female stem (with a serrated hose shank with safety collar for safety clamps), a female threaded spud and a swivel nut.	<b>WP max</b> = 41 bar
	<b>INSERT TYPE</b> Serrated insert with safety collar.	<b>APPLICATION</b> Designed for steam and high pressure compressed air and other high pressure or hazardous applications requiring a safety coupling and clamp assembly. This reusable, rugged coupling can be fitted or re-attached in the field without special equipment. Widely used in oil refineries, chemical plants and other factories using steam as an essential service. Used for compressed air (especially in larger sizes), in quarrying, mining, pile driving, as well as other service duties. Also used for LPG, grouting, volatile liquids and similar applications.
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Clamps - 2 Bolt - 2 Gripping Finger Type</li> <li>• Clamps - 4 Bolt - 2 Gripping Finger Type</li> <li>• Clamps - 6 Bolt - 3 Gripping Finger Type</li> </ul>	<b>WARNING &amp; NOTE</b> /

## // TURNEX P

	<b>CONNECTION TYPE</b> <b>Asymmetric coupling system:</b> <b>female threaded end</b>	<b>WP</b> = 25 bar
	<b>INSERT TYPE</b> Serrated insert with locking collar / serrated insert without locking collar.	<b>APPLICATION</b> Used in petrochemical plants in France.
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Alfacrimp hydraulic serrated ferrule (H1200004-xx0000)</li> </ul>	<b>WARNING &amp; NOTE</b> /


## // SYMMETRIC GUILLEMIN

## // SYMMETRIC GUILLEMIN NF E 29.572


	<b>CONNECTION TYPE</b> <b>Symmetric coupling system</b> A coupling system in which both halves are identical. Couplings have locking rings to connect and secure the other half. This is the French standard tanker connection. The coupling is connected by simply putting the two halves together and turning a tapered locking ring which tightens into a tapered channel on the other half of the coupling making a tight, secure connection. Couplings can be connected by hand or with the aid of spanners designed for the purpose.	<b>WP</b> = 16 bar
	<b>INSERT TYPE</b> Serrated insert with locking collar / serrated insert without locking collar.	<b>APPLICATION</b> For pressure and suction delivery of liquid (general industrial, water, hydrocarbons, chemicals) and solids (powders, granules).
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Band-it system</li> <li>• Clamps</li> <li>• Crimping ring</li> <li>• Smooth ferrule</li> </ul>	<b>WARNING &amp; NOTE</b> Symmetric Guillemin Couplings are not interchangeable with DSP/AR couplings. Not to be used for steam or liquid gas application.

## // SYMMETRIC DSP &amp; AR (NF S 61.704 - NF S 61.705)

## // SYMMETRIC DSP NF S 61.704


	<b>CONNECTION TYPE</b> <b>Symmetric coupling system</b> These French hose couplings are symmetrical, clamp fitting and hose tail are one piece fitted with a locking ring. By turning the locking ring the bosses are pushed underneath the two strips of the mating coupling.	<b>WP = 16 bar</b>
	<b>INSERT TYPE</b> Serrated insert without locking collar.	<b>APPLICATION</b> For fire fighting application. DSP couplings are used for pressure (delivery) purposes in the fire fighting field.
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Band-it system</li> <li>• Worm gear clamp</li> <li>• Clamps</li> <li>• Crimping ring</li> <li>• Smooth ferrule</li> </ul>	<b>WARNING &amp; NOTE</b> Symmetric DSP/AR Couplings are not interchangeable with Symmetric Guillemin Couplings. They differ from Guillemin Couplings by the preformed bosses on the locking ring respect the strips on the lugs.

## // SYMMETRIC AR NF S 61.705

	<b>CONNECTION TYPE</b> <b>Symmetric coupling system</b> These French hose couplings are symmetrical, clamp fitting and hose tail are one piece fitted with a locking ring. By turning the locking ring the bosses are pushed underneath the two strips of the mating coupling.	<b>WP = 16 bar</b>
	<b>INSERT TYPE</b> Serrated insert without locking collar.	<b>APPLICATION</b> For fire fighting application. AR couplings are used for suction & delivery purposes in the fire fighting field.
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Band-it system</li> <li>• Worm gear clamp</li> <li>• Clamps</li> <li>• Crimping ring</li> <li>• Smooth ferrule</li> </ul>	<b>WARNING &amp; NOTE</b> Symmetric DSP/AR Couplings are not interchangeable with Symmetric Guillemin Couplings. They differ from Guillemin Couplings by the preformed bosses on the locking ring respect the strips on the lugs.


## // GFR - ROUND THREAD COUPLING NF E 29.579

## // GFR - ROUND THREAD COUPLING NF E 29.579

	<b>CONNECTION TYPE</b> <b>Asymmetric coupling system</b> <b>male &amp; female threaded end</b>	<b>WP = 16 bar</b> <b>WP = 25 bar (DN 20 mm)</b>
	<b>INSERT TYPE</b> Serrated insert without locking collar.	<b>APPLICATION</b> For air, nitrogen and water in petrochemical plants and refineries in France.
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Band-it system</li> <li>• Clamps</li> <li>• Crimping ring</li> <li>• Smooth ferrule</li> </ul>	<b>WARNING &amp; NOTE</b> /


## // STORZ

## // STORZ

	<b>CONNECTION TYPE</b> <b>Symmetric coupling system</b> A straight through coupling in which both halves are identical. Each half has forward projecting lugs and mating recesses. Any two parts with the same lug dimensions will connect together. This is the standard German tanker connection. The coupling is connected by simply locating the lugs into the recesses of each half and turning clockwise up to the stop (a 120° rotation). One half of the coupling normally has a swivel head which prevents hose / pipe twists when connecting. Couplings can be connected by hand or with the aid of spanners designed for the purpose.	<b>WP = 16 bar</b>
	<b>INSERT TYPE</b> Ridged insert for clamps.	<b>APPLICATION</b> Used for liquids, powders and granulates. The storz system was originally designed for fire fighting equipment. it is suitable for water and a wide range of other fluids. It has also been adopted for use with powder blowing systems.
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Band-it system</li> <li>• Clamps</li> <li>• Crimping ring</li> <li>• Smooth ferrule</li> </ul>	<b>WARNING &amp; NOTE</b> Different lug spaced units can be used to prevent accidental cross line contamination.


## // TANKWAGEN

## // TANKWAGEN EN 14 420-6 / DIN 28 450


	<b>CONNECTION TYPE</b> <b>Asymmetric coupling system</b> <b>male &amp; female part</b> To be screwed on BSPP male fittings. The locking lever fitted to the female (MK) coupling engages in the rim of the male (VK) part. It's turned until both halves are tightly compressed. The locking lever is then pushed downwards.	<b>WP = 25 bar</b>
	<b>INSERT TYPE</b> /	<b>APPLICATION</b> Used for transport of liquids, solids and gases, with exception of liquefied gas and steam. Potential areas of application are stationary and mobile tanking facilities, forwarding/ tanking and silo vehicles, chemical industry, food industry, plant and power station construction and shipbuilding.
	<b>Recommended Ferrule/Clamps</b> (See table A-B) /	<b>WARNING &amp; NOTE</b> /

## // CAM &amp; GROOVE

## // CAM &amp; GROOVE MIL A-A-59326A / MIL C-27487


	<b>CONNECTION TYPE</b> <b>Asymmetric coupling system:</b> <b>male adapter &amp; female coupler</b> The coupling is connected by simply opening the coupler arms and inserting the adapter into the coupler. The cam arms are then closed under normal hand pressure to complete joint.	<b>WP = 11 bar / 3 bar (DN 1/2" / 8")</b>
	<b>INSERT TYPE</b> Ridged insert for clamps / serrated insert without locking collar.	<b>APPLICATION</b> Used for transfer of liquid or dry bulk products with exception of liquid gas or steam. For pipe, hose, tubing and tanks conveying liquids, powders, vapours & gases including cooling water, fuels, chemicals, cosmetics, foodstuffs, offshore, pumps, adhesives, dyes, pharmaceuticals, pellets and many more. Couplings applicable to almost any industry that uses liquids, powders and gases.
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Band-it system</li> <li>• Worm gear clamp</li> <li>• Clamps</li> <li>• Smooth ferrule</li> </ul>	<b>WARNING &amp; NOTE</b> Not to be used for compressed air and steam application.

## // CAM &amp; GROOVE EN 14 420-7 / DIN 2828


	<b>CONNECTION TYPE</b> <b>Asymmetric coupling system:</b> <b>male adapter &amp; female coupler</b> The coupling is connected by simply opening the coupler arms and inserting the adaptor into the coupler. The cam arms are then closed under normal hand pressure to complete joint.	<b>WP = 18 bar / 7 bar (DN 3/4" / 4")</b>
	<b>INSERT TYPE</b> EN 14 420-2 / DIN 2817 smooth insert with collar.	<b>APPLICATION</b> Used for transfer of liquid or dry bulk products with exception of liquid gas or steam. For pipe, hose, tubing and tanks conveying liquids, powders, vapours & gases including cooling water, fuels, chemicals, cosmetics, foodstuffs, offshore, pumps, adhesives, dyes, pharmaceuticals, pellets and many more. Couplings applicable to almost any industry that uses liquids, powders and gases.
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Safety clamps EN 14 420-3 / DIN 2817</li> <li>• Safety clamps flexoline</li> <li>• ®</li> </ul>	<b>WARNING &amp; NOTE</b> Not to be used for steam or liquid gas application. Couplings CAM & GROOVE (EN 14420-7 / DIN 2828) are interchangeable with couplings CAM & GROOVE (MIL C - 27.487) as coupling side but differ in term of hose shank design and thread side. A flat PTFE thread seal has been added to the female threaded parts compared to Cam & Groove (MIL C - 27.487).

## // COMBINATION NIPPLE

### // COMBINATION NIPPLE FOR CLAMPING


	<b>CONNECTION TYPE</b> Asymmetric coupling system: male threaded end  Symmetric coupling system: plain end	<b>WP = 10 bar</b> The WP varies with size of the combination nipple, the size and construction of the hose and the type of clamping system used.
	<b>INSERT TYPE</b> Serrated insert without locking collar.	<b>APPLICATION</b> For all suction and discharge hose applications at low pressure. For oil, petroleum, water (widely used in offshore rig operations by oil companies), volatile fluids, abrasives and dry products.
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Band-it system</li> <li>• Worm gear clamp</li> <li>• Clamps</li> <li>• Smooth ferrule</li> </ul>	<b>WARNING &amp; NOTE</b> Not to be used for compressed air application. Hose nipples made from tubular stock; threaded male end, in all style, has the same size as hose.

### // ALFACRIMP COMBINATION NIPPLE

	<b>CONNECTION TYPE</b> Asymmetric coupling system: Male threaded end	<b>WP = 25 bar</b>
	<b>INSERT TYPE</b> Industrial "one-piece" (precrimped serrated insert).	<b>APPLICATION</b> For all suction and discharge hose applications at low pressure. For oil, petroleum, water (widely used in offshore rig operations by oil companies), volatile fluids, abrasives and dry products.
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• DN ≥ 3": industrial precrimped ferrule</li> </ul>	<b>WARNING &amp; NOTE</b> /

## // EN 14 420-5 / DIN 2817


## // EN 14 420-5 / DIN 2817

	<b>CONNECTION TYPE</b> Asymmetric coupling system: male & female threaded end	<b>WP</b> = 25 bar
	<b>INSERT TYPE</b> EN 14 420-2 / DIN 2817 smooth insert with collar.	<b>APPLICATION</b> Potential Areas of Application are chemical, petrochemical, pharmaceutical industry, food industry and blast furnaces.
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Safety clamps EN 14 420-3 / DIN 2817</li> <li>• Safety clamps flexoline®</li> <li>• Serrated ferrule suitable to EN 14 420-2 / DIN 2817</li> </ul>	<b>WARNING &amp; NOTE</b> Screw hose couplings EN 14420-5 / DIN 2817 are not interchangeable with steam hose couplings EN 14 423 / DIN 2826, due to differences in application and overall dimensions.



## // AVIATION

## // EN 14 420-5 / DIN 2817


	<b>CONNECTION TYPE</b> <b>Asymmetric coupling system:</b> <b>male &amp; female threaded end</b>	<b>WP</b> = 25 bar
	<b>INSERT TYPE</b> EN 14 420-2 / DIN 2817 smooth insert with collar.	<b>APPLICATION</b> For aircraft ground fuelling and defuelling application.
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Safety clamps EN 14 420-3 / DIN 2817</li> <li>• Serrated ferrule</li> </ul>	<b>WARNING &amp; NOTE</b> Different from the standard screw hose couplings EN 14420-5 / DIN 2817 for the material: produced in tinned brass for aviation refuelling service.

## // BSPP MALE THREADED FITTING

	<b>CONNECTION TYPE</b> <b>Asymmetric coupling system:</b> <b>male threaded end</b>	<b>WP</b> = 25 bar
	<b>INSERT TYPE</b> Serrated insert with EN 14 420-2 / DIN 2817 collar.	<b>APPLICATION</b> For aircraft ground fuelling and defuelling application.
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Safety clamps EN 14 420-3 / DIN 2817</li> <li>• Serrated ferrule</li> </ul>	<b>WARNING &amp; NOTE</b> /


## // SANDBLAST

## // SANDBLAST - QUICK COUPLING


	<b>CONNECTION TYPE</b> <b>Symmetric coupling system</b> A coupling system related to claw couplings, always identical head dimensions and therefore always interchangeable.	<b>WP</b> = 12 bar
	<b>INSERT TYPE</b> External insert secured by screws into the hose.	<b>APPLICATION</b> Used on all stationary and mobile blasting machines and plants.
	<b>Recomended Ferrule/Clamps</b> (See table A-B) /	<b>WARNING &amp; NOTE</b> Internal claw distance = 58 mm

## // MORTAR

## // MORTAR - INSERT FOR CLAMPS


	<b>CONNECTION TYPE</b> <b>Asymmetric coupling system:</b> <b>male adapter &amp; female coupler</b>  <b>Asymmetric coupling system:</b> <b>male threaded end</b> The principle of the Mortar coupling is similar to Cam & Groove Coupling, but both are not interchangeable.	<b>WP max = 50 bar</b>
	<b>INSERT TYPE</b> Serrated insert without locking collar.	<b>APPLICATION</b> For mortar and concrete lines on pumps, spraying-devices, plastering machine, ect.
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Band-it system</li> <li>• Crimping ring</li> <li>• Smooth ferrule</li> </ul>	<b>WARNING &amp; NOTE</b> Note that there are two different Systems used in the market: System 22 and System 23,5. Attention: only fittings with same coupling-size and same system are interchangeable.

## // MORTAR - INSERT FOR SERRATED FERRULE

	<b>CONNECTION TYPE</b> <b>Asymmetric coupling system:</b> <b>male adapter &amp; female coupler</b>  <b>Asymmetric coupling system:</b> <b>male threaded end</b> The principle of the Mortar coupling is similar to Cam & Groove Coupling, but both are not interchangeable.	<b>WP max = 50 bar</b>
	<b>INSERT TYPE</b> Serrated insert with locking collar.	<b>APPLICATION</b> For mortar and concrete lines on pumps, spraying-devices, plastering machine, ect.
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Serrated ferrule</li> </ul>	<b>WARNING &amp; NOTE</b> Note that there are two different Systems used in the market: System 22 and System 23,5. Attention: only fittings with same coupling-size and same system are interchangeable. Not present in ALFAGOMMA catalogue.


## // CONCRETE

### // CONCRETE - HARDENED INSERT COMPLETE WITH PRECRIMPED FERRULE


	<p><b>CONNECTION TYPE</b></p> <p><b>Symmetric coupling system:</b>  <b>grooved end - indirect connection through joint clamps</b></p> <ul style="list-style-type: none"> <li>• Victaulic style</li> <li>• Shouldered style</li> <li>• California style</li> </ul> <p><b>Asymmetric coupling system:</b>  <b>male &amp; female threaded end</b></p> <ul style="list-style-type: none"> <li>• BSPT/NPT male</li> <li>• BSPP female</li> </ul> <p><b>Asymmetric coupling system:</b>  <b>male &amp; female part</b></p> <ul style="list-style-type: none"> <li>• Schwing style</li> </ul>	<p><b>WP = 100 bar</b></p>
	<p><b>INSERT TYPE</b></p> <p>Concrete "one-piece" (precrimped serrated insert).</p>	<p><b>APPLICATION</b></p> <p>For high pressure concrete pumping.</p>
	<p><b>RECOMENDED FERRULE/CLAMPS</b>                  (SEE TABLE A-B)</p> <ul style="list-style-type: none"> <li>• Concrete precrimped ferrule</li> </ul>	<p><b>WARNING &amp; NOTE</b></p> <p>/</p>

## // FLANGED FITTING


## // FIXED FLANGE EN 1092-1 PN 10/16 - SERRATED INSERT COMPLETE WITH PRE-CRIMPED FERRULE

	<b>CONNECTION TYPE</b> Symmetric coupling system: flanged end	<b>WP</b> = 16 / 25 bar
	<b>INSERT TYPE</b> Industrial "one-piece" (precrimped serrated insert).	<b>APPLICATION</b> For all suction and discharge hose applications at low pressure. For oil, petroleum, water and other fluids (chemicals included).
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• DN = 3" - 6": industrial precrimped ferrule</li> </ul>	<b>WARNING &amp; NOTE</b> /


## // FIXED FLANGE EN 1092-1 PN 10/16 - SERRATED INSERT

	<b>CONNECTION TYPE</b> Symmetric coupling system: flanged end	<b>WP</b> = 16 / 25 bar
	<b>INSERT TYPE</b> Serrated insert with locking collar.	<b>APPLICATION</b> For all suction and discharge hose applications at low pressure. For oil, petroleum, water and other fluids (chemicals included).
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Serrated ferrule</li> </ul>	<b>WARNING &amp; NOTE</b> /


**// FIXED FLANGE ASME ANSI B 16.5 - ASA 150 - SERRATED INSERT COMPLETE WITH PRE-CRIMPED FERRULE**

	<b>CONNECTION TYPE</b> Symmetric coupling system: flanged end	<b>WP</b> = 16 / 25 bar
	<b>INSERT TYPE</b> Industrial "one-piece" (precrimped serrated insert).	<b>APPLICATION</b> For all suction and discharge hose applications at low pressure. For oil, petroleum, water and other fluids (chemicals included).
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• DN = 3"- 6": industrial precrimped ferrule</li> </ul>	<b>WARNING &amp; NOTE</b> /


**// FIXED FLANGE ASME ANSI B 16.5 - ASA 150 - SERRATED INSERT**

	<b>CONNECTION TYPE</b> Symmetric coupling system: flanged end	<b>WP</b> = 16 / 25 bar
	<b>INSERT TYPE</b> Serrated insert with locking collar.	<b>APPLICATION</b> For all suction and discharge hose applications at low pressure. For oil, petroleum, water and other fluids (chemicals included).
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Serrated ferrule</li> </ul>	<b>WARNING &amp; NOTE</b> /


## // SWIVEL FLANGE EN 1092-1 PN 10/16 - SERRATED INSERT COMPLETE WITH PRE-CRIMPED FERRULE

	<b>CONNECTION TYPE</b> Symmetric coupling system: flanged end	WP = 16 / 25 bar
	<b>INSERT TYPE</b> Industrial "one-piece" (precrimped serrated insert).	<b>APPLICATION</b> For all suction and discharge hose applications at low pressure. For oil, petroleum, water and other fluids (chemicals included).
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) • DN = 3"- 6": industrial precrimped ferrule	<b>WARNING &amp; NOTE</b> /


## // SWIVEL FLANGE EN 1092-1 PN 10/16 - SERRATED INSERT

	<b>CONNECTION TYPE</b> Symmetric coupling system: flanged end	WP = 16 / 25 bar
	<b>INSERT TYPE</b> Serrated insert with locking collar.	<b>APPLICATION</b> For all suction and discharge hose applications at low pressure. For oil, petroleum, water and other fluids (chemicals included).
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) • Serrated ferrule	<b>WARNING &amp; NOTE</b> /


## // SWIVEL FLANGE EN 1092-1 PN 10/16 - EN 14 420-2 / DIN 2817 HOSE SHANK

	<b>CONNECTION TYPE</b> Symmetric coupling system: flanged end	WP = 25 bar
	<b>INSERT TYPE</b> EN 14 420-2 / DIN 2817 smooth insert with collar.	<b>APPLICATION</b> For all suction and discharge hose applications at low pressure. For oil, petroleum, water and other fluids (chemicals included).
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) • Safety clamps EN 14 420-3 / DIN 2817 • Safety clamps flexoline®	<b>WARNING &amp; NOTE</b> /


**// SWIVEL FLANGE ASME ANSI B 16.5 - ASA 150 - SERRATED INSERT COMPLETE WITH PRE-CRIMPED FERRULE**

	<b>CONNECTION TYPE</b> Symmetric coupling system: flanged end	<b>WP</b> = 16 / 25 bar
	<b>INSERT TYPE</b> Industrial "one-piece" (precrimped serrated insert).	<b>APPLICATION</b> For all suction and discharge hose applications at low pressure. For oil, petroleum, water and other fluids (chemicals included).
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• DN = 3" - 6": industrial precrimped ferrule</li> </ul>	<b>WARNING &amp; NOTE</b> /

**// SWIVEL FLANGE ASME ANSI B 16.5 - ASA 150 - SERRATED INSERT**

	<b>CONNECTION TYPE</b> Symmetric coupling system: flanged end	<b>WP</b> = 16 / 25 bar
	<b>INSERT TYPE</b> Serrated insert with locking collar.	<b>APPLICATION</b> For all suction and discharge hose applications at low pressure. For oil, petroleum, water and other fluids (chemicals included).
	<b>RECOMENDED FERRULE/CLAMPS</b> (SEE TABLE A-B) <ul style="list-style-type: none"> <li>• Serrated ferrule</li> </ul>	<b>WARNING &amp; NOTE</b> /

**// FIXED FLANGE - SPLIT COUPLING - AS 2129 TABLE D**

	<b>CONNECTION TYPE</b> Symmetric coupling system: flanged end	<b>WP</b> = 10 bar
	<b>INSERT TYPE</b> Muff coupling with external insert clamped with screwed bolts on external hose diameter.	<b>APPLICATION</b> For bulk material and abrasive slurries suction and delivery in heavy duty mining.
	<b>Recommended Ferrule/Clamps</b> (See table A-B) /	<b>WARNING &amp; NOTE</b> /

## // CLAMPS &amp; FERRULES FOR ASSEMBLY

## // INSERT TYPE

Drawing example	Insert type (ind)	Ferrule/clamps To be used for assembly
	Serrated insert with locking collar	Serrated ferrule
	Serrated insert without locking collar	Smooth ferrule - Crimping ring - Clamps - Band-it
	Standard insert for clamp Ridged insert for clamp	Smooth ferrule - Crimping ring - Clamps - Band-it
	Serrated insert with EN 14 420-2 - DIN 2817 collar	EN 14 420-3 - DIN 2817 safety clamps Serrated ferrule suitable for EN 14 420-2 - DIN 2817 hose shank
	EN 14 420-2 - DIN 2817 smooth insert with collar	EN 14 420-3 - DIN 2817 safety clamps
	EN 14 423 - DIN 2826 serrated insert with collar	EN 14 423 - DIN 2826 safety clamps
	Concrete "One-piece" - Precrimped serrated insert (full flow)	Concrete serrated ferrule already precrimped to the fitting
	Industrial "One-piece" - Precrimped serrated insert	Industrial serrated ferrule already precrimped to the fitting
	External insert fixed by screws	Secured by screws into the hose (no ferrule & clamps needed)
	External insert - Muff coupling	Clamped by screwed bolts on external hose diameter (no ferrule & clamps needed)
	Composite hose insert (helical hose shank)	Smooth ferrule for composite hose
	Built-in insert	Insert bonded to hose during construction (no ferrule needed)












## // TABLE A: FERRULES

Ferrule type (ind)	Ferrule drawing
	Crimping ring
	Smooth ferrule for composite hose (Suitable for industrial hose)
	Serrated ferrule
	Industrial precrimped serrated ferrule
	Concrete precrimped serrated ferrule

## // TABLE B: CLAMPS

Clamps drawing	Clamp family
	Express clamps
	Type A claw clamps - DIN20039B
	Type B claw clamps
	Type S (australian type) claw clamps
	Loose saddle&saf.Claw clamps
	Boss clamps - ground joint
	Safety clamps EN 14 423 / DIN 2826
	Safety clamps EN 14 420-3 / DIN 2817
	Loose saddle clamps
	Loose saddle clamps - DIN20039A

## // TABLE B: CLAMPS

Clamps drawing	Clamp family
	Ear pinch on clamp
	Miniclamp
	Worm gear clamp
	Spiral clamp - double bridge
	Bolt superclamp
	PW clamp
	Band-it band & band-it buckles
	Preformed band clamp
	Rubber lined clips
	Exhaust pipe clamp