UltraGrip®

DN700 | DN800

Couplings, Reducing Couplings & Flange Adaptors

GB – INSTALLATION INSTRUCTIONS

Helden®

Keeping Our World Connected

ULTRAGRIP COUPLINGS DN700 TO DN800

Pipe materials, insertion depths and bolt diameters for UltraGrip products

Table 1.

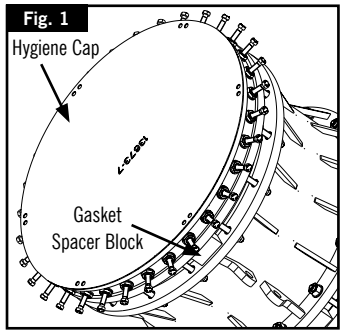
		Axial Fastener		Radial Fastener					Setting Gap (mm)		Insertion Depth (mm)		Pressure Rating for Water	
Nom Size	O.D. Range (mm)	Stud Size	Recommended Bolt Torque (Nm) for all materials	Bolt Size	Recommended Bolt Torque (Nm) for Ductile Iron	Recommended Bolt Torque (Nm) for PE	Recommended Bolt Torque (Nm) for Steel & Cast Iron*	Recommended Bolt Torque (Nm) for MOPVC	A (min)	B (max)	X (min)	M (max)	Gripping Product	Flex Product
DN700	700-735	M20	190-210	M16	175-185	140-150	110-120	95-105	150	360	220	325	16 bar	
DN700	727-762	M20	190-210	M16	175-185	140-150	110-120	95-105	150	360	220	325	16 bar	
DN700	750-785	M20	190-210	M16	175-185	140-150	110-120	95-105	150	360	220	325	16 bar	
DN800	789-824	M20	190-210	M16	175-185	140-150	110-120	95-105	160	370	220	325	16 bar	
DN800	825-860	M20	190-210	M16	175-185	140-150	110-120	95-105	160	370	220	325	16 bar	
DN800	853-888	M20	190-210	M16	175-185	140-150	110-120	95-105	160	370	220	325	16 bar	

WARNING: Not conforming to torque requirements for different pipe materials can result in pipe slippage and / or pipe damage.

Table 2.

Pipe Materials	Gripping	Non-Gripping	Support Liner Required
Steel	✓	✓	
Ductile Iron	✓	✓	
Cast Iron	✓	✓	
MOPVC	✓	✓	✓
PE100	✓	✓	✓
PE Barrier Pipe	✗	✗	
Asbestos Cement	✗	✓	

Fig. 1



NOTES

These instructions relate to the UltraGrip range of Couplings for use on the pipe materials noted in the table. UltraGrip is supplied fully assembled for use as an end restraint (gripping) product and should not be dismantled prior to installation, unless it is to be used as a flexible (non gripping) product in which case the gripper bolts should not be torqued.

Site test pressure = 1.5 times working pressure
Thick pipe coatings and protective wrappings must always be removed.

Above ground exposed pipework is subject to both loads from the internal pressure and those from temperature changes / thermal expansion, which can be substantially higher than those from internal pressure and cannot always be safely determined. UltraGrip can be used in above ground applications, where it is not exposed to direct sunlight, and falls within the 40 degrees operating temperature range (between -20 and +60).

*110-120 torque rating for cast iron pipes assumes the cast iron has a wall thickness of 32mm and in a condition where the structural strength has not been compromised. For thinner wall cast iron pipes, please contact Helden for a recommended bolt torque.

Fig. 2

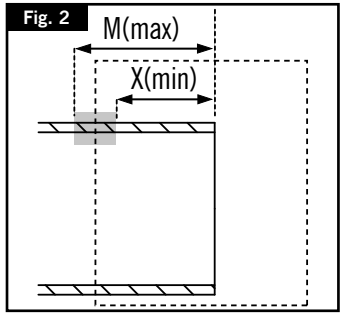


Fig. 4

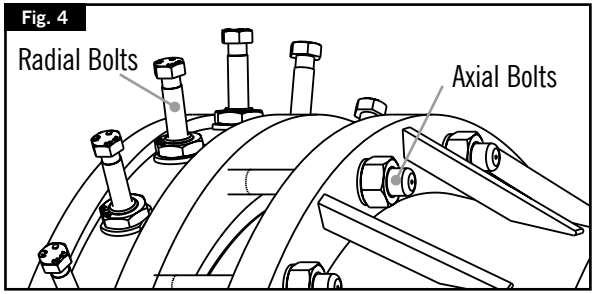
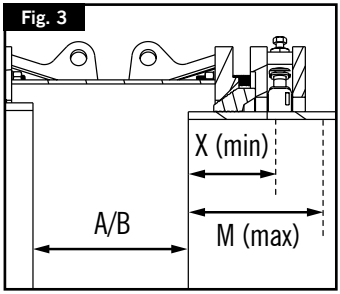


Fig. 3



ULTRAGRIP COUPLINGS DN700 TO DN800

Installation Instructions

1. Check that pipe material and size are suitable for the UltraGrip Coupling. For PE & MOPVC always use a support liner. (See pages 12-13)
2. Examine pipe ends and ensure that pipe surfaces are clean and free from score marks, scale, rust or any loose debris or other surface defect that may affect fitting performance. Weld beads must be ground flush, maintaining correct surface profile. Thick pipe coatings or wrappings must always be removed. UltraGrip must sit either on to the bare pipe surface or on a thin paint film.
3. **Hazard Warning:** Lifting lugs, where provided, are designed/tested for lifting only the product to which they are attached. Failure to follow these instructions could result in serious personal injury or death, or property damage.

   Ensure that you are trained, competent and familiar with the lifting appliance and accessories to be used. Ensure that the correct equipment is used and is marked with its WLL (Working Load Limit) or tables are available to determine the WLL. Ensure that you visually inspect the lifting gear and accessories before proceeding with the lift, discarding defective equipment. Ensure work is within the WLL for the equipment. Do not use equipment that is faulty, or operate it beyond the WLL. It must be examined by a competent inspection engineer and re-certificated. Only undertake slinging and banksman's duties if you are competent and have been trained. This must be provided by a recognised training provider. Never walk underneath or slew a load over a person.
4. All UltraGrip couplings incorporate hygiene protective caps (which consist of bio-degradable tie-wraps and bio-degradable water resistant cardboard) to prevent contamination. This must be removed prior to fitment (Fig 1). Gasket spacer block (Fig 1) should NOT be removed at this point.
5. To ensure correct installation, mark the minimum and maximum pipe insertion depths obtained from Table 1 around the full circumference of both pipe ends as shown in Fig.2.
6. Align pipe to be laid with pipe already in position, taking care that pipe ends are concentric, adjusting support or trench bed as necessary.
7. Slide the mechanical coupling onto one of the pipe spigot ends. Once the coupling is slid over the pipe, reposition the coupling so the mechanical fitting is centrally placed over the gap between two pipes. Bring the pipes into position until the distance between X (min) and M (max) as shown in Fig 3 using depths obtained from Table 1. - adjust if necessary. Check that the two pipe ends and the coupling are on the same axis. Use supports if necessary.
8. All UltraGrip DN700-800 couplings incorporate gasket spacer blocks (Fig.1) which prevent the end rings from collapsing during transportation. This must be removed prior to fitment at this stage.
9. Tighten diametrically opposed nuts of the axial fasteners as per Fig 4, giving each nut one or two turns at a time to draw up the end ring evenly. All nuts are required to be tightened up as many times as necessary to achieve the required torque (Ref Table 1). On completion, there should be an even radial gap between pipe and end ring of the fitting, with all of the M (max) line being visible and none of the X (min) line visible.
10. Decide now what type of connection is required: GRIPPING or NON-GRIPPING:-

    a. GRIPPING - When used as a gripping type, tighten diametrically opposed bolts of the radial fasteners as per Fig 4, giving each nut one or two turns at a time to engage the grippers evenly. All nuts are required to be tightened up as many times as necessary to achieve the required torque (Ref Table 1).

    b. NON-GRIPPING - When used as a non-gripping type, the radial fasteners must not be torqued. When installed as a flexible (non-gripping) product UltraGrip does not prevent pipe pull-out and adequate external restrain has to be provided.

ULTRAGRIP REDUCING COUPLING DESIGNS DN700 TO DN800

Fig. A - Tapered sleeve design

Fig. B - Make up ring design

ULTRAGRIP REDUCING COUPLINGS DN700 TO DN800

Pipe materials, insertion depths and bolt diameters for UltraGrip products

Table 3.

Nom Size		O.D. Range (mm)				Axial Fastener		Radial Fastener					Setting Gap (mm)		Insertion Depth (mm)	
		Small End		Large End		Small and Large End Stud Size	Recommended Bolt Torque (Nm) for all materials	Small and Large End Stud Size	Recommended Bolt Torque (Nm)						Small and Large End	
Small End	Large End	Min	Max	Min	Max				Ductile Iron	PE-100	Steel & Cast Iron	MOPVC	A (min)	B (max)	X (min)	M (max)
Fig. A - Tapered Sleeve Design																
700	700	700	735	727	762	M20	190-210	M16	175-185	140-150	110-120	95-105	310	360	220	245
700	700	727	762	750	785	M20	190-210	M16	175-185	140-150	110-120	95-105	310	360	220	245
700	800	727	762	789	824	M20	190-210	M16	175-185	140-150	110-120	95-105	315	365	220	245
800	800	825	860	853	888	M20	190-210	M16	175-185	140-150	110-120	95-105	320	370	220	245
Fig. B - Make Up Ring Design																
700	700	700	735	750	785	M20	190-210	M16	175-185	140-150	110-120	95-105	450	500	220	245
700	800	700	735	789	824	M20	190-210	M16	175-185	140-150	110-120	95-105	455	505	220	245
800	800	789	824	825	860	M20	190-210	M16	175-185	140-150	110-120	95-105	460	510	220	245
800	800	789	824	853	888	M20	190-210	M16	175-185	140-150	110-120	95-105	455	505	220	245

WARNING:
Not conforming to torque requirements for different pipe materials can result in pipe slippage and / or pipe damage.

Table 4.

Pipe Materials	Gripping	Non-Gripping	Support Liner Required
Steel	✓	✓	
Ductile Iron	✓	✓	
Cast Iron	✓	✓	
MOPVC	✓	✓	✓
PE100	✓	✓	✓
PE Barrier Pipe	✗	✗	
Asbestos Cement	✗	✓	

NOTES

These instructions relate to the UltraGrip range of Reducing Couplings for use on the pipe materials noted in the table.

UltraGrip is supplied fully assembled for use as an end restraint (gripping) product and should not be dismantled prior to installation, unless it is to be used as a flexible (non gripping) product in which case the gripper bolts should not be torqued.

Site test pressure = 1.5 times working pressure
Thick pipe coatings and protective wrappings must always be removed.

Above ground exposed pipework is subject to both loads from the internal pressure and those from temperature changes / thermal expansion, which can be substantially higher than those from internal pressure and cannot always be safely determined. UltraGrip can be used in above ground applications, where it is not exposed to direct sunlight, and falls within the 40 degrees operating temperature range (between -20 and +60).

*110-120 torque rating for cast iron pipes assumes the cast iron has a wall thickness of 32mm and in a condition where the structural strength has not been compromised. For thinner wall cast iron pipes, please contact Helden for a recommended bolt torque.

Pressure Rating for Water	
Gripping Product	16 bar
Flex Product	16 bar

ULTRAGRIP REDUCING COUPLINGS DN700 TO DN800

Installation Instructions

1. Check that pipe material and size are suitable for the UltraGrip Reducing Coupling.
   Please take in to consideration Fig. A or Fig. B for type of Reducing Coupling (See pages 4-5).
   For PE & MOPVC always use a support liner. (See pages 12-13)
2. Examine pipe ends and ensure that pipe surfaces are clean and free from score marks, scale, rust or any loose debris or other surface defect that may affect fitting performance. Weld beads must be ground flush, maintaining correct surface profile. Thick pipe coatings or wrappings must always be removed. UltraGrip must sit either on to the bare pipe surface or on a thin paint film.
3. **Hazard Warning:** Lifting lugs, where provided, are designed/tested for lifting only the product to which they are attached. Failure to follow these instructions could result in serious personal injury or death, or property damage.

   Ensure that you are trained, competent and familiar with the lifting appliance and accessories to be used. Ensure that the correct equipment is used and is marked with its WLL (Working Load Limit) or tables are available to determine the WLL. Ensure that you visually inspect the lifting gear and accessories before proceeding with the lift, discarding defective equipment. Ensure work is within the WLL for the equipment. Do not use equipment that is faulty, or operate it beyond the WLL. It must be examined by a competent inspection engineer and re-certificated. Only undertake slinging and banksman's duties if you are competent and have been trained. This must be provided by a recognised training provider. Never walk underneath or slew a load over a person.
4. All UltraGrip couplings incorporate hygiene protective caps (which consist of bio-degradable tie-wraps and bio-degradable water resistant cardboard) to prevent contamination. This must be removed prior to fitment (Fig 1). Gasket spacer block (Fig 1) should NOT be removed at this point.
5. To ensure correct installation, mark the minimum and maximum pipe insertion depths obtained from Table 3 around the full circumference of both pipe ends as shown in Fig.2.
6. Align pipe to be laid with pipe already in position, taking care that pipe ends are concentric, adjusting support or trench bed as necessary.
7. Slide the mechanical coupling onto one of the pipe spigot ends. Once the coupling is slid over the pipe, reposition the coupling so the mechanical fitting is centrally placed over the gap between two pipes. Bring the pipes into position until the distance between X (min) and M (max) as shown in Fig 3a/3b using depths obtained from Table 3. - adjust if necessary. Check that the two pipe ends and the coupling are on the same axis. Use supports if necessary.
8. All UltraGrip DN700-800 couplings incorporate gasket spacer blocks (Fig.1) which prevent the end rings from collapsing during transportation. This must be removed prior to fitment at this stage.
9. Tighten diametrically opposed nuts of the axial fasteners as per Fig 4, giving each nut one or two turns at a time to draw up the end ring evenly. All nuts are required to be tightened up as many times as necessary to achieve the required torque (Ref Table 3). On completion, there should be an even radial gap between pipe and end ring of the fitting, with all of the M (max) line being visible and none of the X (min) line visible.
10. Decide now what type of connection is required: GRIPPING or NON-GRIPPING:-

    a. GRIPPING - When used as a gripping type, tighten diametrically opposed bolts of the radial fasteners as per Fig 4, giving each nut one or two turns at a time to engage the grippers evenly. All nuts are required to be tightened up as many times as necessary to achieve the required torque (Ref Table 3).

    b. NON-GRIPPING - When used as a non-gripping type, the radial fasteners must not be torqued. When installed as a flexible (non-gripping) product UltraGrip does not prevent pipe pull-out and adequate external restrain has to be provided.

ULTRAGRIP REDUCING COUPLINGS DN700 TO DN800

Installation Instructions

Fig. 1

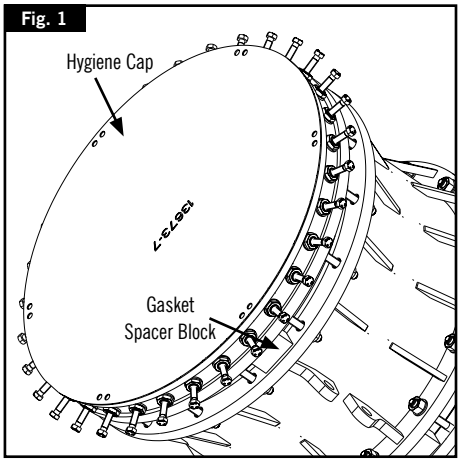


Fig. 2

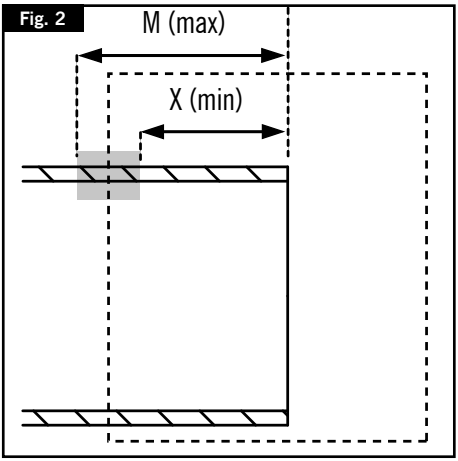


Fig. 3a : Tapered sleeve design

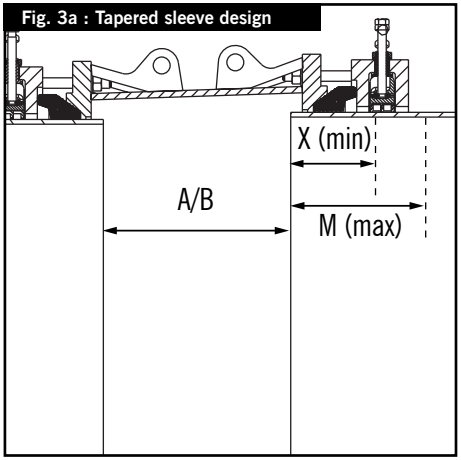


Fig. 3b : Make up ring design

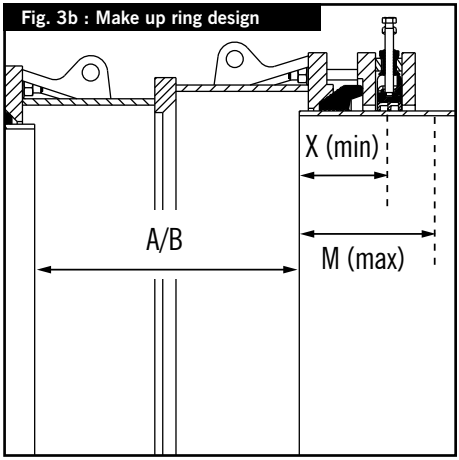
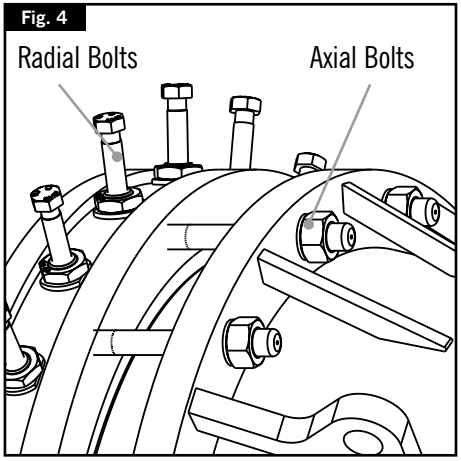


Fig. 4



ULTRAGRIP FLANGE ADAPTORS PN16 DN700 TO DN800

Pipe materials, insertion depths and bolt diameters for UltraGrip products

Table 5.

			Axial Fastener		Radial Fastener					Setting Gap (mm)		Insertion Depth (mm)		Water Pressure Rating	
Nom Size	O.D. Range (mm)	Flange Nom Size	Stud Size	Recommended Bolt Torque (Nm) for all materials	Bolt Size	Recommended Bolt Torque (Nm) for Ductile Iron	Recommended Bolt Torque (Nm) for PE	Recommended Bolt Torque (Nm) for Steel & Cast Iron*	Recommended Bolt Torque (Nm) for MOPVC	A (min)	B (max)	X (min)	M (max)	Gripping Product	Flex Product
DN700	700-735	600	M20	190-210	M16	175-185	140-150	110-120	95-105	475	500	220	245	16 bar	
DN700	700-735	700	M20	190-210	M16	175-185	140-150	110-120	95-105	275	300	220	245	16 bar	
DN700	727-762	700	M20	190-210	M16	175-185	140-150	110-120	95-105	275	300	220	245	16 bar	
DN700	750-785	700	M20	190-210	M16	175-185	140-150	110-120	95-105	275	300	220	245	16 bar	
DN800	789-824	700	M20	190-210	M16	175-185	140-150	110-120	95-105	525	550	220	245	16 bar	
DN800	789-824	800	M20	190-210	M16	175-185	140-150	110-120	95-105	290	315	220	245	16 bar	
DN800	825-860	800	M20	190-210	M16	175-185	140-150	110-120	95-105	290	315	220	245	16 bar	
DN800	853-888	800	M20	190-210	M16	175-185	140-150	110-120	95-105	290	315	220	245	16 bar	

WARNING: Not conforming to torque requirements for different pipe materials can result in pipe slippage and / or pipe damage.

Table 6.

Pipe Materials	Gripping	Non-Gripping	Support Liner Required
Steel	✓	✓	
Ductile Iron	✓	✓	
Cast Iron	✓	✓	
MOPVC	✓	✓	✓
PE100	✓	✓	✓
PE Barrier Pipe	✗	✗	
Asbestos Cement	✗	✓	

NOTES

These instructions relate to the UltraGrip range of Flange Adaptors for use on the pipe materials noted in the table. UltraGrip is supplied fully assembled for use as an end restraint (gripping) product and should not be dismantled prior to installation, unless it is to be used as a flexible (non gripping) product in which case the gripper bolts should not be torqued.

Site test pressure = 1.5 times working pressure
Thick pipe coatings and protective wrappings must always be removed.

Above ground exposed pipework is subject to both loads from the internal pressure and those from temperature changes / thermal expansion, which can be substantially higher than those from internal pressure and cannot always be safely determined. UltraGrip can be used in above ground applications, where it is not exposed to direct sunlight, and falls within the 40 degrees operating temperature range (between -20 and +60).

*110-120 torque rating for cast iron pipes assumes the cast iron has a wall thickness of 32mm and in a condition where the structural strength has not been compromised. For thinner wall cast iron pipes, please contact Helden for a recommended bolt torque.

Fig. 1

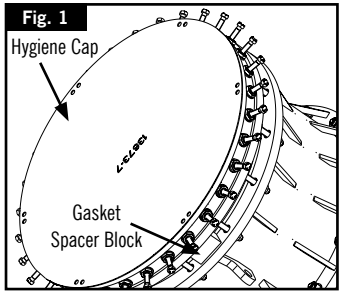


Fig. 2

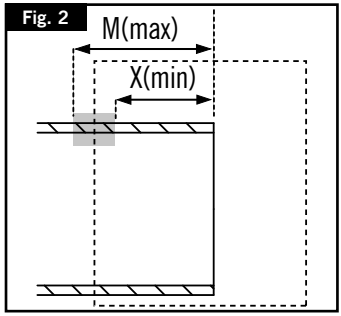


Fig. 4

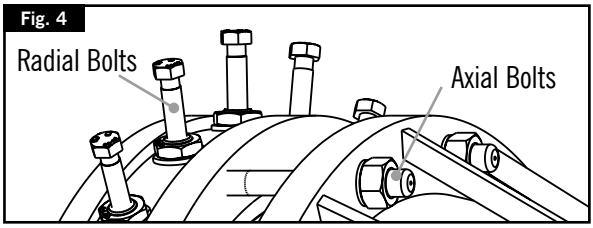
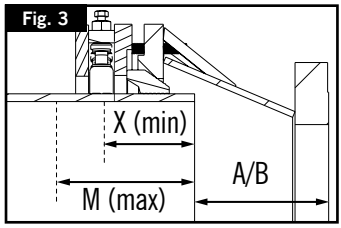


Fig. 3



ULTRAGRIP FLANGE ADAPTORS PN16 DN700 TO DN800

Installation Instructions

1. Check that pipe material and size are suitable for the UltraGrip Flange Adaptor. For PE & MOPVC always use a support liner. (See pages 12-13)
2. Examine pipe ends and ensure that pipe surfaces are clean and free from score marks, scale, rust or any loose debris or other surface defect that may affect fitting performance. Weld beads must be ground flush, maintaining correct surface profile. Thick pipe coatings or wrappings must always be removed. UltraGrip must sit either on to the bare pipe surface or on a thin paint film.
3. **Hazard Warning:** Lifting lugs, where provided, are designed/tested for lifting only the product to which they are attached. Failure to follow these instructions could result in serious personal injury or death, or property damage.

   Ensure that you are trained, competent and familiar with the lifting appliance and accessories to be used. Ensure that the correct equipment is used and is marked with its WLL (Working Load Limit) or tables are available to determine the WLL. Ensure that you visually inspect the lifting gear and accessories before proceeding with the lift, discarding defective equipment. Ensure work is within the WLL for the equipment. Do not use equipment that is faulty, or operate it beyond the WLL. It must be examined by a competent inspection engineer and re-certificated. Only undertake slinging and banksman's duties if you are competent and have been trained. This must be provided by a recognised training provider. Never walk underneath or slew a load over a person.
4. All UltraGrip Flange Adaptors incorporate hygiene protective caps (which consist of bio-degradable tie-wraps and bio-degradable water resistant cardboard) to prevent contamination. This must be removed prior to fitment (Fig 1). Gasket spacer block (Fig 1) should NOT be removed at this point.
5. To ensure correct installation, mark the minimum and maximum pipe insertion depths obtained from Table 5 around the full circumference of both pipe ends as shown in Fig.2.
6. Slide the UltraGrip Flange Adaptor onto pipe end. Align the pipe and UltraGrip Flange Adaptor with mating flange, fit flange connecting gasket (Helden recommend using an IBC gasket for optimum sealing) and flange connecting bolts. Ensure pipe is inserted to a depth between X (min) and M (max) as shown in Fig 3 using depths obtained from Table 5. – adjust if necessary. Tighten flange connecting bolts using standard procedures. If the mechanical fitting is being installed on plain ended pipe. The end of the product should sit between the minimum and maximum insertion depth X (min) and M (max) (Refer table 5).
7. All UltraGrip flange adaptors incorporate gasket spacer blocks (Fig.1) which prevent the end rings from collapsing during transportation. These must be removed prior to fitment at this stage.
8. Tighten diametrically opposed nuts of the axial fasteners as per Fig 4, giving each nut one or two turns at a time to draw up the end ring evenly. All nuts are required to be tightened up as many times as necessary to achieve the required torque (Ref Table 5). On completion, there should be an even radial gap between pipe and end ring of the fitting, with all of the M (max) line being visible and none of the X (min) line visible.
9. Decide now what type of connection is required: GRIPPING or NON-GRIPPING:-

   a. GRIPPING - When used as a gripping type, tighten diametrically opposed bolts of the radial fasteners as per Fig 4, giving each bolt one or two turns at a time to engage the grippers evenly. All bolts are required to be tightened up as many times as necessary to achieve the required torque (Ref Table 5).

   b. NON-GRIPPING - When used as a non-gripping type, the radial fasteners must not be torqued. When installed as a flexible (non-gripping) product UltraGrip does not prevent pipe pull-out and adequate external restrain has to be provided.

ULTRAGRIP FLANGE ADAPTORS PN10 DN700 TO DN800

Pipe materials, insertion depths and bolt diameters for UltraGrip products

Table 7.

			Axial Fastener		Radial Fastener					Setting Gap (mm)		Insertion Depth (mm)		Water Pressure Rating	
Nom Size	O.D. Range (mm)	Flange Nom Size	Stud Size	Recommended Bolt Torque (Nm) for all materials	Bolt Size	Recommended Bolt Torque (Nm) for Ductile Iron	Recommended Bolt Torque (Nm) for PE	Recommended Bolt Torque (Nm) for Steel & Cast Iron*	Recommended Bolt Torque (Nm) for MOPVC	A (min)	B (max)	X (min)	M (max)	Gripping Product	Flex Product
DN700	700-735	600	M20	190-210	M16	175-185	140-150	110-120	95-105	550	575	220	245	10 bar	
DN700	700-735	700	M20	190-210	M16	175-185	140-150	110-120	95-105	265	290	220	245	10 bar	
DN700	727-762	700	M20	190-210	M16	175-185	140-150	110-120	95-105	265	290	220	245	10 bar	
DN700	750-785	700	M20	190-210	M16	175-185	140-150	110-120	95-105	265	290	220	245	10 bar	
DN800	789-824	700	M20	190-210	M16	175-185	140-150	110-120	95-105	415	440	220	245	10 bar	
DN800	789-824	800	M20	190-210	M16	175-185	140-150	110-120	95-105	270	295	220	245	10 bar	
DN800	825-860	800	M20	190-210	M16	175-185	140-150	110-120	95-105	270	295	220	245	10 bar	
DN800	853-888	800	M20	190-210	M16	175-185	140-150	110-120	95-105	270	295	220	245	10 bar	

WARNING: Not conforming to torque requirements for different pipe materials can result in pipe slippage and / or pipe damage.

Table 8.

Pipe Materials	Gripping	Non-Gripping	Support Liner Required
Steel	✓	✓	
Ductile Iron	✓	✓	
Cast Iron	✓	✓	
MOPVC	✓	✓	✓
PE100	✓	✓	✓
PE Barrier Pipe	✗	✗	
Asbestos Cement	✗	✓	

NOTES

These instructions relate to the UltraGrip range of Flange Adaptors for use on the pipe materials noted in the table. UltraGrip is supplied fully assembled for use as an end restraint (gripping) product and should not be dismantled prior to installation, unless it is to be used as a flexible (non gripping) product in which case the gripper bolts should not be torqued.

Site test pressure = 1.5 times working pressure
Thick pipe coatings and protective wrappings must always be removed.

Above ground exposed pipework is subject to both loads from the internal pressure and those from temperature changes / thermal expansion, which can be substantially higher than those from internal pressure and cannot always be safely determined. UltraGrip can be used in above ground applications, where it is not exposed to direct sunlight, and falls within the 40 degrees operating temperature range (between -20 and +60).

*110-120 torque rating for cast iron pipes assumes the cast iron has a wall thickness of 32mm and in a condition where the structural strength has not been compromised. For thinner wall cast iron pipes, please contact Helden for a recommended bolt torque.

Fig. 1

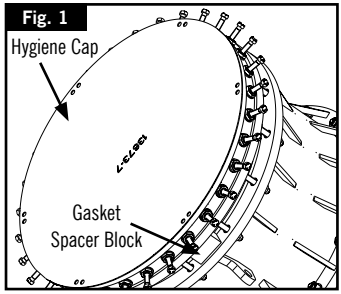


Fig. 2

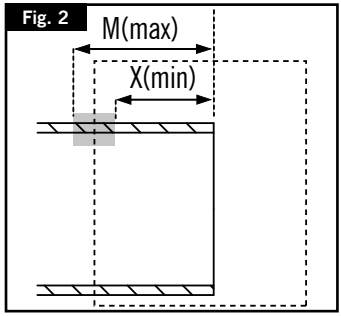


Fig. 4

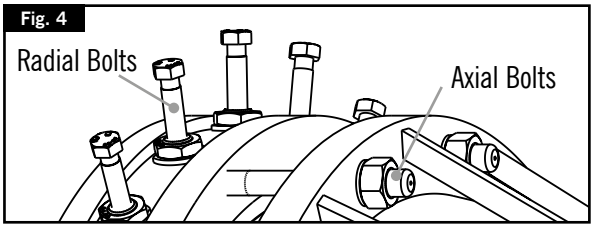
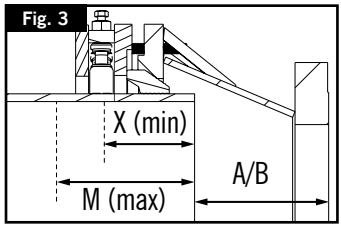


Fig. 3



ULTRAGRIP FLANGE ADAPTORS PN10 DN700 TO DN800

Installation Instructions

1. Check that pipe material and size are suitable for the UltraGrip Flange Adaptor. For PE & MOPVC always use a support liner. (See pages 12-13)
2. Examine pipe ends and ensure that pipe surfaces are clean and free from score marks, scale, rust or any loose debris or other surface defect that may affect fitting performance. Weld beads must be ground flush, maintaining correct surface profile. Thick pipe coatings or wrappings must always be removed. UltraGrip must sit either on to the bare pipe surface or on a thin paint film.
3. **Hazard Warning:** Lifting lugs, where provided, are designed/tested for lifting only the product to which they are attached. Failure to follow these instructions could result in serious personal injury or death, or property damage.

   Ensure that you are trained, competent and familiar with the lifting appliance and accessories to be used. Ensure that the correct equipment is used and is marked with its WLL (Working Load Limit) or tables are available to determine the WLL. Ensure that you visually inspect the lifting gear and accessories before proceeding with the lift, discarding defective equipment. Ensure work is within the WLL for the equipment. Do not use equipment that is faulty, or operate it beyond the WLL. It must be examined by a competent inspection engineer and re-certificated. Only undertake slinging and banksman's duties if you are competent and have been trained. This must be provided by a recognised training provider. Never walk underneath or slew a load over a person.
4. All UltraGrip Flange Adaptors incorporate hygiene protective caps (which consist of bio-degradable tie-wraps and bio-degradable water resistant cardboard) to prevent contamination. This must be removed prior to fitment (Fig 1). Gasket spacer block (Fig 1) should NOT be removed at this point.
5. To ensure correct installation, mark the minimum and maximum pipe insertion depths obtained from Table 7 around the full circumference of both pipe ends as shown in Fig.2.
6. Slide the UltraGrip Flange Adaptor onto pipe end. Align the pipe and UltraGrip Flange Adaptor with mating flange, fit flange connecting gasket (Helden recommend using an IBC gasket for optimum sealing) and flange connecting bolts. Ensure pipe is inserted to a depth between X (min) and M (max) as shown in Fig 3 using depths obtained from Table 7. – adjust if necessary. Tighten flange connecting bolts using standard procedures. If the mechanical fitting is being installed on plain ended pipe. The end of the product should sit between the minimum and maximum insertion depth X (min) and M (max) (Refer table 7).
7. All UltraGrip flange adaptors incorporate gasket spacer blocks (Fig.1) which prevent the end rings from collapsing during transportation. These must be removed prior to fitment at this stage.
8. Tighten diametrically opposed nuts of the axial fasteners as per Fig 4, giving each nut one or two turns at a time to draw up the end ring evenly. All nuts are required to be tightened up as many times as necessary to achieve the required torque (Ref Table 7). On completion, there should be an even radial gap between pipe and end ring of the fitting, with all of the M (max) line being visible and none of the X (min) line visible.
9. Decide now what type of connection is required: GRIPPING or NON-GRIPPING:-

   a. GRIPPING - When used as a gripping type, tighten diametrically opposed bolts of the radial fasteners as per Fig 4, giving each bolt one or two turns at a time to engage the grippers evenly. All bolts are required to be tightened up as many times as necessary to achieve the required torque (Ref Table 7).

   b. NON-GRIPPING - When used as a non-gripping type, the radial fasteners must not be torqued. When installed as a flexible (non-gripping) product UltraGrip does not prevent pipe pull-out and adequate external restrain has to be provided.

ULTRAGRIP RILSAN COATED MILD STEEL SUPPORT LINERS FOR PE AND MOPVC SIZES DN700 TO DN800

Fig. 1

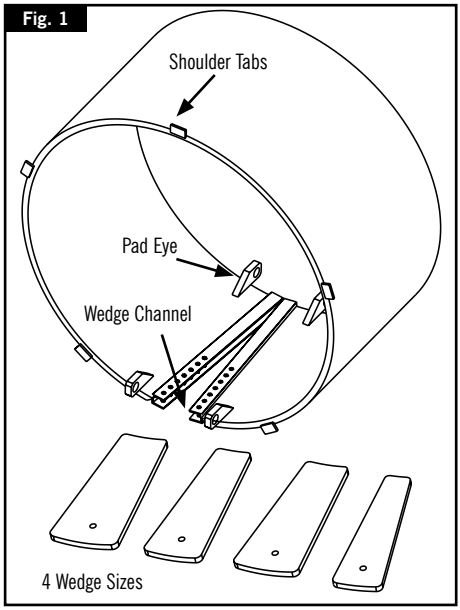


Fig. 2

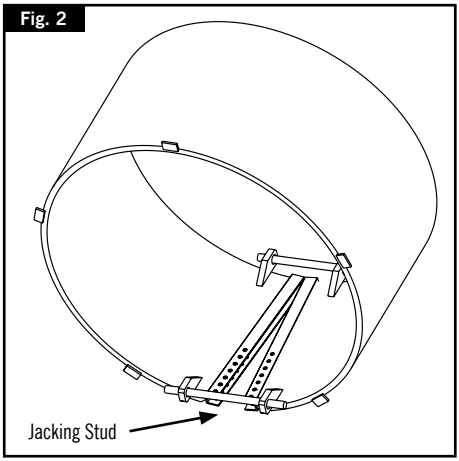


Fig. 3

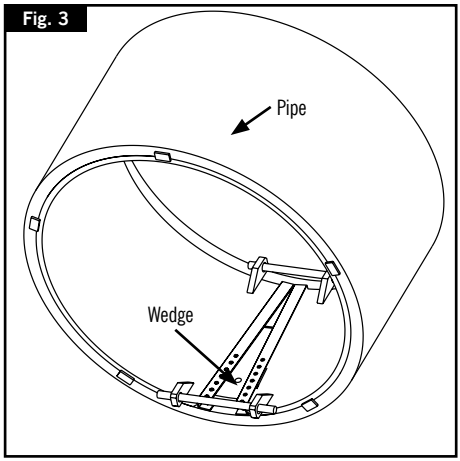
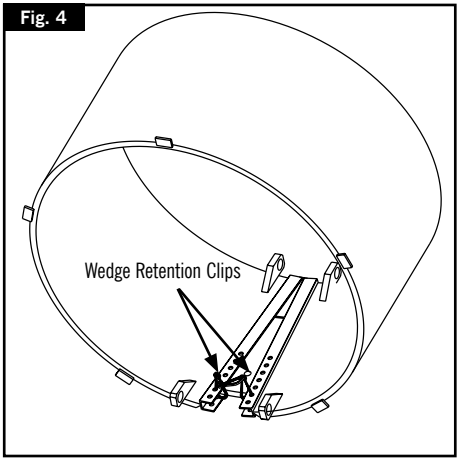


Fig. 4



ULTRAGRIP RILSAN COATED MILD STEEL SUPPORT LINERS FOR PE AND MOPVC SIZES DN700 TO DN800

Installation Instructions

1. Check that the support liner and wedges are suitable for pipe OD and wall thickness.
2. Measure bore of pipe and select correct wedge from the set of 4 supplied (See Table 9 for PE and MOPVC).
3. Insert the liner into the bore of the pipe until the shoulder tabs butt against the pipe end.
4. Fit the appropriate jacking stud through the pad eyes in the liner (Fig 2).
5. Using the nuts on the studs, expand the liner until it contacts the pipe bore.
6. Insert the appropriate wedge into the channel of the liner.
7. Tap wedge until liner is fully expanded against pipe bore.(Fig 3)
8. Clip the wedge retention clips in the channel holes closest to the end of the wedge to prevent wedge sliding out.
9. Once the two clips have been inserted, use a third clip to interlock all the clips together. (Fig 4)
10. Slacken off the nuts on the jacking studs and remove jacking studs and nuts.

WARNING: Damage to the wedge or liner coating will result into rusting of the product; utmost care must be taken when inserting the wedges in the liners to avoid damaging the coating.

Table 9.

Pipe code	Pipe size	Pipe OD		Pipe ID		Wedge 1				Wedge 2				Wedge 3				Wedge 4			
	(mm)	Min (mm)	Max (mm)	Min (mm)	Max (mm)	Min ID (mm)	Max ID (mm)	Short Edge (mm)	Long Edge (mm)	Min ID (mm)	Max ID (mm)	Short Edge (mm)	Long Edge (mm)	Min ID (mm)	Max ID (mm)	Short Edge (mm)	Long Edge (mm)	Min ID (mm)	Max ID (mm)	Short Edge (mm)	Long Edge (mm)
PE Support Liners																					
710-SDR11	710	710	716.4	567	587	555	565	50	100	566	571	85	135	572	582	103	153	583	587	120	170
710-SDR17	710	710	716.4	618	633	610	617	50	100	618	621	76	126	622	629	89	139	630	633	102	152
710-SDR21	710	710	716.4	635	649	626	633	50	100	634	641	76	126	642	645	89	139	646	649	102	152
710-SDR26	710	710	716.4	650	662	642	648	50	100	649	652	72	122	653	655	83	133	656	662	94	144
800-SDR11	800	800	807.2	640	662	627	638	50	100	639	644	88	138	645	656	107	157	657	661	126	176
800-SDR17	800	800	807.2	696	713	687	695	50	100	696	700	79	129	701	709	94	144	710	713	108	158
800-SDR21	800	800	807.2	716	731	708	715	50	100	716	723	76	126	724	727	89	139	728	731	102	152
800-SDR26	800	800	807.2	732	746	723	730	50	100	731	734	76	126	735	738	89	139	739	746	102	152
MOPVC Support Liners																					
710-SDR33	710	710	712	662	668	656	661	50	100	662	664	88	138	665	670	79	129	671	673	126	176
800-SDR33	800	800	802	746	753	739	745	50	100	746	749	72	122	750	756	83	133	757	759	102	152

Notes:

Notes:

bsi. ISO 9001 Quality Management FM 00311
ISO 14001 Environmental Management EMS 553775

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