

# PE Electrofusion Systems for Gas and Water Catalog



**EFS**<sup>™</sup>  
IPEX

**FRIATEC**



ELECTROFUSION SYSTEMS

**PE ELECTROFUSION SYSTEMS**  
For Gas and Water Applications

**IPEX**  
Committed to Excellence

Engineered Smarter<sup>™</sup>



# IPEX PE ELECTROFUSION SYSTEMS FOR GAS & WATER

**The smarter, more reliable way  
of fusing HDPE pipe**

**The strongest, most reliable leak-proof seal  
in the industry**

IPEX electrofusion products are engineered smarter than traditional fusion systems. Our couplings feature a unique, exposed coil design that provides a seal stronger than any other electrofusion system on the market. This is achieved for two reasons:

- The heat, created by the electrical current passing through the exposed coil of the IPEX coupling, is transferred directly to the PE pipe, and
- The coil protrudes from the interior surface of the coupling. When the pipe is heated, the coil sinks into it creating a much stronger bond.

As a result of this process, every joint will be sealed precisely to specification, automatically, every time, minimizing the risk of human error. This unparalleled sealing technology has earned our couplings the highest pressure rating in the industry. What's more, because every joint is as strong as the pipe itself, the IPEX Electrofusion system is ideal for horizontal direct drilling and other trenchless applications.

## Industry-leading traceability

With the industry's most advanced barcode monitoring, recording and traceability technology, IPEX makes managing your infrastructure easier than ever before.

Imagine, no more hidden costs or surprises on future dig ups. Instead, you'll know when, where and how every coupling in your system was installed, and by whom.

All these benefits add up to deliver substantial time and cost savings on every project.

IPEX Electrofusion Systems.  
Smarter engineering for your  
gas and water HDPE  
infrastructure.



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**NOTES**

[illegible]

# GENESIS F3

## Electrofusion Processor

- 120 Volt and 240 Volt
- Processor permanently mounted in a hard shell Pelican™ case
- USB download port
- Standard machine supplied with a barcode pen scanner.
- Options include SmartScan™ and SmartScan™ with GPS
- Can be operated in Manual, Barcode ID or Resistor ID modes
- Scanning capability for pipe and fitting traceability barcodes per ASTM F2897-11



	120 Volt	240 Volt
Description	Product Code	Product Code
Processor with barcode pen scanner	328221	328251
Processor with SmartScan	328222	328250
Processor with SmartScan with GPS	328223	328249

Stores information on up to 1000 fusions

Windows® 7 or later compatible

Calibration Window 3 years

Operator ID readable

Barcode readable without leads attached

Traceability barcode scanning capable

AutoCal™ system allows processor to be recalibrated at customer's facility

3 handles so the processor can be carried easily by 1 or 2 people

Cable storage in lid

Lid opens 180 degrees

Weight:

120 volt – 48 pounds

240 volt – 57 pounds



# GENESIS F3

## GENESIS F3 Specifications

Parameter	120 Volt Version	240 Volt Version
Supply Voltage	97 VAC to 150 VAC	180 VAC to 264 VAC
Supply Frequency	47 Hz to 70 Hz	
Supply Waveform	Sine Wave or Square Wave	
Maximum Supply Current	30 Amps at 60 Amps Output (120 VAC)	25 Amps at 80 Amps Output (240 VAC)
Output Voltage	8 VAC to 48 VAC +/- 1.5%	
Output Current	4 AAC to 60 AAC +/- 1.5% (80 AAC @ 42 VAC output)	4 AAC to 80 AAC +/- 1.5%
Duty Cycle	60% (based on four 15 min. cycles, 9 min. ON and 6 min. OFF for 1 hour)	
Operating Temperature Range	0°F to 140°F	
Operating Modes	Barcode, Manual, Manual Barcode, Resistor ID	
Barcode Readability without Leads Attached	YES	
Output Cable Length	12 feet	
Input Cable Length	12 feet	
Fusion Information Storage	1000 Fusions	
Type A USB Port	USB A type connector for attaching a USB flash drive to download fusion data.	
Type B USB Port	USB B type connector for attaching the AutoCal® field calibration system.	
Languages	English/Spanish	
Fitting Adapters	90 degree non-rotating	
Environmental Protection	IP54 Splash-Proof	
Calibration Interval	3 Years	
Warranty	1 Year	
Scanning	Interchangeable Smart Scan/Smart Scan with GPS	
GPS	Optional	
Pipe Fitting Traceability	Code 128 A, B or C barcodes	
IEC Protection Class	Class 1 Grounded	
Calibration/Service	Field calibration capable	
Weight	48 pounds	56 pounds



This device is fully compatible with the AutoCal® field calibration system.

## Accessories for Genesis F3 Electrofusion Processor

Replacement Parts	
Item	Part Number
Pen Scanner, Threaded Connector	328224
SMART Scanner, Genesis F3	328225
SMART Scanner with GPS, Genesis F3	328226
Display Shield	328230
Fitting Adapter, 4.0mm 90° (White)	328231
Fitting Adapter, 4.7mm 90° (Black)	328232
Fitting Adapter, 4.7mm 90° with ID pin	328233
Smart Scanner Holster	328227
Barcode Pen Holster	328228
Accessory bag	328229
Genesis F3 Information Card	328234
Fuse, 2 Amp 250 Volt Slow-Blow, 5 x 20mm	328235
Replacement Case	328247
Adapter Wrench 5/16"	328248



# COUPLINGS

**1/2" CTS through 30" IPS**

Our Couplings and Fittings deliver flexibility and reliability, and meet various standards.

Short Designation      MBI/UBI ... OD

Field of Application      Connections of PE Pipes 2406/2708  
and 3408/4710

Range of Application      Gas up to 100 psi  
Water up to 200 psi



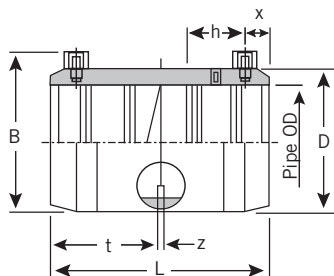
see pg 5 for  
specific size  
applications



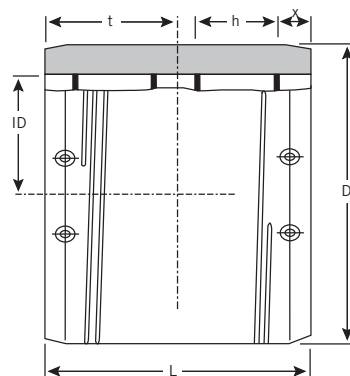


## 1/2" CTS through 30" IPS

1/2" – 6"



8" – 30"



Nominal Pipe OD CTS	Product SDR	Product Code	ID min	ID max	D	B	L	t	z	h	x	Fusion Time/Sec @ 73°F	Cooling Time/Min */**/**
1/2"	11	128031	0.622	0.634	1.102	1.732	2.283	1.142	0.079	0.591	0.23	27	05/08/10
1"	11	128027	1.122	1.134	1.654	2.244	3.071	1.535	0.079	0.787	0.31	28	05/08/10

Nominal Pipe OD IPS	Product SDR	Product Code	ID min	ID max	D	B	L	t	z	h	x	Fusion Time/Sec @ 73°F	Cooling Time/Min */**/**
3/4"	11	128026	1.047	1.059	1.575	2.165	2.598	1.260	0.079	0.728	0.27	28	05/08/10
1"	11	128024	1.311	1.323	1.850	2.460	3.071	1.496	0.079	0.787	0.31	28	05/08/10
1-1/4"	11	128025	1.654	1.679	2.244	2.835	3.346	1.634	0.079	0.945	0.39	34	10/15/25
1-1/2"	11	128033	1.902	1.917	2.480	3.130	3.858	1.870	0.079	1.060	0.46	34	10/15/25
2"	11	128028	2.374	2.390	3.142	3.657	4.449	2.205	0.079	1.205	0.51	54	10/15/25
3"	11	128029	3.496	3.516	4.606	4.980	5.472	2.717	0.079	1.417	0.59	100	10/30/40
4"	11	128030	4.492	4.516	5.827	6.173	6.260	3.110	0.079	1.689	0.67	151	10/30/40
6"	11	128032	6.610	6.634	8.543	8.740	7.992	3.976	0.079	2.295	0.79	440	20/60/75
8" monofilar	11	128060	8.626	8.665	11.029	–	9.448	4.724	–	2.953	1.063	540	20/60/75
8" bifilar	11	128023	8.626	8.665	11.022	–	9.448	4.724	–	2.953	1.063	554 ea side	20/60/75
10"	11	128061	10.748	10.787	13.975	–	11.811	5.275	–	3.149	1.063	500 ea side	30/75/100
12"	11	128062	12.748	12.787	15.746	–	11.219	5.610	–	2.679	1.142	550 ea side	30/75/100
14"	11	128064	13.976	14.016	17.716	–	11.811	5.905	–	3.500	1.260	580 ea side	30/75/100
16"	11	128063	15.969	16.008	19.685	–	12.598	6.299	–	3.748	1.260	870/730 ea side	45/95/120
18"	11	128065	17.969	18.008	22.047	–	13.386	6.693	–	3.346	1.260	870/870 ea side	45/95/120
20"	11	128176	19.961	20.016	24.803	–	14.173	7.086	–	3.622	1.260	870/720 ea side	45/95/120
22"	17	128066	21.961	22.016	24.803	–	14.566	7.283	–	3.291	1.260	870/720 ea side	45/95/120
24"	13.5	128067	24.000	24.039	27.952	–	15.748	7.874	–	4.095	1.420	870/850 ea side	45/95/120
28"	17	128068	27.992	28.031	31.496	–	15.748	7.874	–	6.062	1.614	850/850 ea side	60/80/120
30"	11	228461	29.980	30.020	37.008	–	19.684	9.842	–	5.376	1.614	1680/1740 ea side	60/90/120

FRIATEC Safety Fittings can be fused to all PE pipes SDR range 11 through 17.6.

\* Pipe can be moved after indicated cooling time (handling)

\*\* Pipe can be pressurized after indicated cooling time (pressure <90 psi)

\*\*\* Pipe can be pressurized after indicated cooling time (pressure >90 psi)

† FM 200 psi, Short Designation: MBI...OD

▶ NSF approved

# COUPLINGS

4" through 24" DIPS



Short Designation

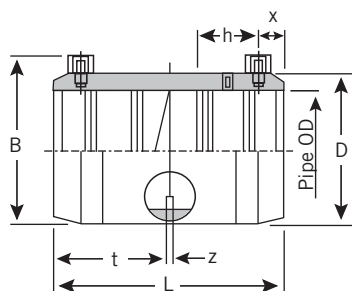
UBI ... OD

Field of Application

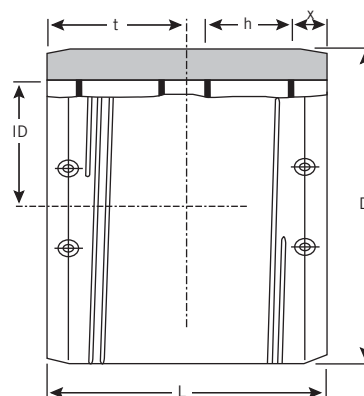
Connections of PE Pipes 2406/2708 and 3408/4710

Range of Application

Water up to 200 psi



4"



6" – 24"

Nominal Pipe OD DIPS	Product SDR	Product Code	ID min	ID max	D	L	t	h	x	Fusion Time/Sec @ 73°F	Cooling Time/Min **/**/**
4"	13.5	128183	4.799	4.819	5.669	6.354	3.177	1.765	0.827	100	15/20/30
6"	11	128134	6.889	6.929	8.825	8.268	4.134	2.535	0.827	486	20/60/75
8"	11	128131	9.039	9.078	11.022	9.448	4.724	2.953	0.827	540	30/75/100
10"	11	128136	11.082	11.122	13.976	11.023	5.511	3.291	0.827	550 ea side	30/75/100
12"	11	128132	13.182	13.224	15.746	11.023	5.511	2.582	0.827	550 ea side	30/75/100
14"	11	128158	15.272	15.311	18.000	11.417	5.708	3.500	0.827	730 ea side	40/95/120
16"	11	128135	17.385	17.444	22.047	11.417	5.708	3.392	0.827	870/720 ea side	40/95/120
18"	13.5	128138	19.472	19.531	22.047	11.417	5.708	3.392	0.827	870/720 ea side	40/95/120
20"	13.5	128133	21.582	21.641	24.803	11.417	5.708	2.460	0.827	870/720 ea side	40/95/120
24"	11	128207	25.732	25.791	32.000	16.535	8.268	4.764	0.827	870/1080 ea side	45/95/120

FRIATEC Safety Fittings can be fused to all PE pipes SDR range 11 through 17.6.

\* Pipe can be moved after indicated cooling time (handling)

\*\* Pipe can be pressurized after indicated cooling time (pressure <90 psi)

\*\*\* Pipe can be pressurized after indicated cooling time (pressure >90 psi)

Please note 4", 18" or 20" DIP are rated SDR 13.5



## Low Pressure Safety Electrofusion Couplings

**(formally called Friafit, not for use in gas application)**

The low pressure coupling can be fused to pipes of SDR stages 11 – 32 in accordance with ASTM F1055.

Pipes made of raw material types PE2406/2708 and PE3408/4710.

It is possible to work with these couplings at ambient temperatures of between  $-4^{\circ}\text{F}$  up to  $122^{\circ}\text{F}$ .

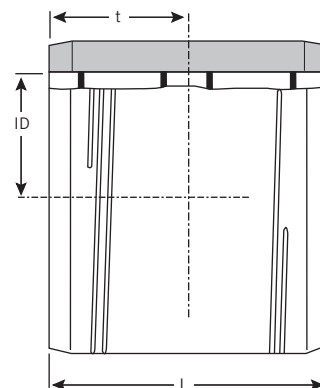
**It is always necessary to use a Friafit adapter for the fusion.**

The thinwall safety coupling (AM) is made of PE3408/4710 and can be pressurized up to a maximum of 100 psi if the pipe is of suitable design.

With exposed heating coils for optimal heat transfer, large insertion depth, extra wide fusion zones plus cold zones at the end and in the middle to prevent the flow of molten material for use without a holding device.



**NOTE: NOT TO BE USED FOR GAS APPLICATIONS.**



Size OD IPS	Product Code	Order No.	VE	PE	ID (in)	L (in)	t (in)	Weight lb/ea
8"	128139	190008-A	48	PE - HD	8.626	7.874	3.937	9
10"	128140	190010-A	32	PE - HD	10.748	8.268	4.134	11
12"	128141	190012-A	32	PE - HD	12.748	8.661	4.330	8
16"	128142	190016-A	16	PE - HD	16.008	8.661	4.330	16

# REDUCER

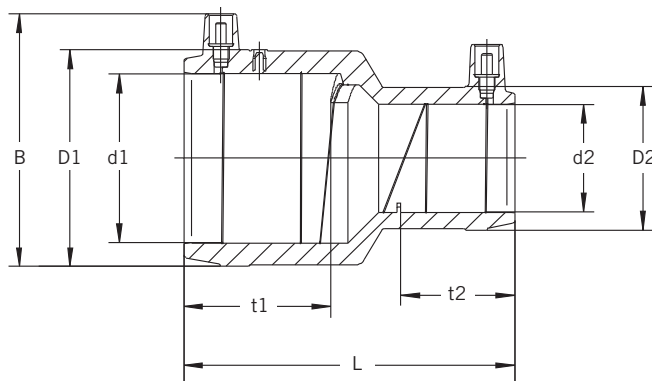
## Reducer CTS x CTS & IPS x CTS



Field of Application Connections of PE Pipes 2406/2708 and 3408/4710

Range of Application Gas up to 100 psi  
Water up to 200 psi

- Increased coupler depth (no holding clamps required)
- Extra wide fusion zones
- Increased wall thickness providing maximum stability
- Front and middle cold zones
- Exposed heating coil with direct contact to pipe
- Contacts are safe to touch
- Visual fusion indicator
- Batch marking
- Individually wrapped
- NSF – 61



Nominal Pipe d1 (in)	Main Size d2 (in)	SDR	Product Code	D1 (in)	D2 (in)	B (in)	L (in)	t1 (in)	t2 (in)	Weight lbs/ea
1 CTS	1/2 CTS	11	128203	1.661	1.110	2.289	3.465	1.516	1.181	0.112
1 IPS	1/2 CTS	11	128204	1.858	1.110	2.482	3.465	1.516	1.181	0.122
1-1/4 IPS	1 CTS	11	128202	2.213	1.661	2.835	3.858	1.673	1.535	0.178
2 IPS	1 CTS	11	128205	3.118	1.661	3.652	4.921	2.165	1.535	0.382

FRIATEC Safety Fittings can be fused to all PE pipes SDR Range 11 through 17.6.

# TAPPING TEES

## EFS EFS Tapping Tees

IPEX EFS Tapping Tees make for fast and safe installation of service and branch pipe.

Material Class PE4710

Field of Application Installation of service and branch pipes to PE pipes 2406/2708 and 3408/4710

Range of Application Gas up to 100 psi

- Corrosion-proof construction for long service life
- Leak-proof seals based on hot tapping tee construction
- Easy installation using conventional tooling (no special saddling tools required)
- Best after-market service in the industry with an established North American manufacturer
- Compatible with all Universal Electrofusion Processors



Host Pipe	Branch	Part No.
2 IPS	1/2 CTS	528004
2 IPS	3/4 IPS	528005
2 IPS	1 CTS	528006
2 IPS	1 IPS	528007
2 IPS	1-1/4 IPS	528009
3 IPS	1/2 CTS	528011
3 IPS	3/4 IPS	528012
3 IPS	1 CTS	528013
3 IPS	1-1/4 CTS	528015
4 IPS	1/2 CTS	528018

Host Pipe	Branch	Part #
4 IPS	3/4 IPS	528019
4 IPS	1 CTS	528020
4 IPS	1 IPS	528021
4 IPS	1-1/4 CTS	528022
6 IPS	1/2 CTS	528025
6 IPS	3/4 IPS	528026
6 IPS	1 CTS	528027
6 IPS	1 IPS	528028
6 IPS	1-1/4 CTS	528029
8 IPS	1/2 CTS	528032
8 IPS	3/4 IPS	528033
8 IPS	1 CTS	528034
8 IPS	1 IPS	528041
8 IPS	1-1/4 CTS	528035

Requires EFS Tapping Tool - see page 13

Allow electrofusion joints to cool prior to handling, pressurizing or tapping.

FRIATEC Safety Fittings can be fused to all PE pipes SDR Range 11 through 17.6.



# TAPPING TEES

## DAA High Pressure Tapping Tees – IPS



The industry-leading design of FRIALEN Tapping Tees makes for fast and safe installation of service and branch pipe.

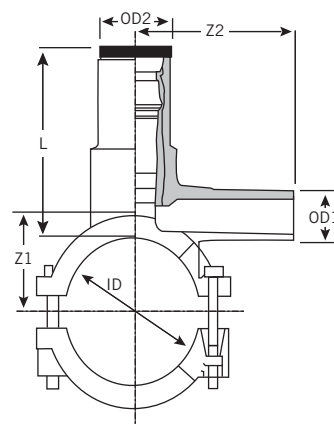
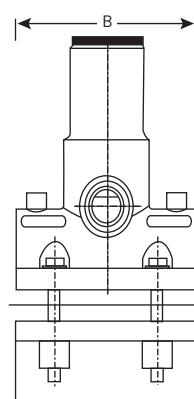
Short Designation DAA d1./ d2...

Field of Application Installation of service and branch pipes to PE pipes 2406/2708 and 3408/4710

Range of Application Gas up to 100psi  
Water up to 200 psi



- Hot tapping tee designed for leakproof installation under pressure up to 200 psi for water and 100 psi for gas
- Ease of assembly—no rounding clamps or special tools
- Cutter and sleeve made of brass
- Brass guide allows easy cutting of thick wall pipe
- Lower and upper “cutter stops” prevent overcutting as well as accidental removal of cutter
- Threaded plug with o-ring seal
- Corrosion-proof construction
- NSF-61



FRIATEC Safety Fittings can be fused to all PE pipes SDR Range 11 through 17.6.  
Allow electrofusion joints to cool prior to handling, pressurizing or tapping.



## DAA High Pressure Tapping Tees – IPS

Nominal Pipe OD IPS	Nominal Outlet	Product Code	ID	OD 1	OD 2	Cutter	L	Z1	Z2	B
1-1/4"	1/2" CTS	228020	1.575	0.626	1.259	0.630	2.913	1.102	9.624	2.756
1-1/4"	3/4" IPS	228021	1.575	1.051	1.259	0.630	2.913	1.102	9.624	2.756
1-1/4"	1" CTS	228022	1.575	1.126	1.259	0.630	2.913	1.102	9.624	2.756
1-1/4"	1" IPS	228023	1.575	1.315	1.259	0.630	2.913	1.102	9.624	2.756
2"	1/2" CTS	228042	2.378	0.626	1.575	0.846	3.878	1.780	3.937	4.094
2"	3/4" IPS	228029	2.378	1.051	1.575	0.846	3.878	1.780	3.701	4.094
2"	1" CTS	228033	2.378	1.126	1.575	0.846	3.860	1.780	3.701	4.094
2"	1" IPS	228032	2.378	1.315	1.575	0.846	3.860	1.780	3.701	4.094
2"	2" IPS	228274	2.378	2.378	1.575	1.180	5.000	2.170	5.952	6.060
3"	1/2" CTS	228043	3.504	0.626	1.969	1.180	4.764	2.343	4.410	4.803
3"	3/4" IPS	228030	3.504	1.051	1.969	1.180	4.764	2.343	3.937	4.803
3"	1" CTS	228031	3.504	1.126	1.969	1.180	4.764	2.343	4.255	4.803
3"	1" IPS	228044	3.504	1.315	1.969	1.180	4.764	2.343	4.255	4.803
3"	2" IPS	228028	3.504	2.378	1.969	1.180	4.780	2.350	6.890	5.905
4"	1/2" CTS	228045	4.512	0.626	1.969	1.180	4.764	2.905	4.016	4.785
4"	3/4" IPS	228034	4.512	1.051	1.969	1.180	4.764	2.846	4.409	4.764
4"	1" CTS	228035	4.512	1.126	1.969	1.180	4.764	2.846	4.527	4.785
4"	1" IPS	228046	4.512	1.315	1.969	1.180	4.764	2.913	4.527	4.785
4"	2" IPS	228025	4.512	2.378	1.969	1.180	4.780	2.913	7.086	4.905
6"	1/2" CTS	228047	6.638	0.626	1.969	1.180	6.575	4.500	4.586	7.677
6"	3/4" IPS	228036	6.638	1.051	1.969	1.180	6.575	4.528	4.331	7.677
6"	1" CTS	228038	6.638	1.126	1.969	1.180	6.575	4.528	4.331	7.677
6"	1" IPS	228049	6.638	1.315	1.969	1.180	6.575	4.528	4.331	7.677
6"	2" IPS	228027	6.638	2.378	1.969	1.180	6.575	4.803	6.811	7.677
8"	1/2" CTS	228048	8.605	0.626	1.969	1.180	6.575	5.483	4.586	7.677
8"	3/4" IPS	228037	8.605	1.051	1.969	1.180	6.575	5.315	4.331	7.677
8"	1" CTS	228041	8.605	1.126	1.969	1.180	6.575	5.315	4.331	7.677
8"	1" IPS	228040	8.605	1.315	1.969	1.180	6.575	5.315	4.331	7.677
8"	2" IPS	228039	8.605	2.378	1.969	1.180	6.575	5.827	6.811	7.677
10" – 16" *	2" IPS	228056	10.75 – 16.00	–	1.969	1.180	6.575	–	7.087	7.677

\* Friatop pneumatic top-loading tool required

FRIATEC Safety Fittings can be fused to all PE pipes SDR Range 11 through 17.6.

Allow electrofusion joints to cool prior to handling, pressurizing or tapping.

For 12" and 14" IPS applications, maximum SDR for full coupon cut is SDR 11.

For 16" IPS applications, maximum SDR for full coupon cut is SDR 13.5.

For 12" DIP applications, maximum SDR for full coupon cut is SDR 11.

For 14" and 16" DIP applications, maximum SDR for full coupon cut is SDR 17.

# TAPPING TEES

## DAA High Pressure Tapping Tees – DIP



The DAA is easy to assemble and delivers a high quality design for the gas and water industry.

Short Designation DAA d1./ d2...

Field of Application Installation of service and branch pipes to PE 2406/2708 and 3408/4710

Range of Application Water up to 200 psi

- Hot tapping tee designed for leakproof installation under pressure up to 200 psi for water
- Ease of assembly–no rounding clamps or special tools
- Cutter and sleeve made of brass
- Brass guide allows easy cutting of thick wall pipe
- Lower and upper “cutter stops” prevent overcutting as well as accidental removal of cutter
- Threaded plug with o-ring seal
- Corrosion-proof construction
- NSF-61



Nominal Pipe OD DIP	Nominal Outlet (in)	Product Code	ID	OD 1	OD 2	Cutter	L	Z1	Z2	B
4"	1/2" CTS	228251	4.512	0.626	1.969	1.201	4.764	2.905	4.016	4.785
4"	3/4" IPS	228252	4.512	1.051	1.969	1.201	4.764	2.846	4.409	4.764
4"	1" CTS	228250	4.512	1.126	1.969	1.201	4.764	2.846	4.527	4.785
4"	2" IPS	228253	4.512	2.378	1.969	1.201	4.780	2.913	7.086	4.905
6"	1/2" CTS	228254	6.638	0.626	1.969	1.201	6.575	4.500	4.586	7.677
6"	3/4" IPS	228255	6.638	1.051	1.969	1.201	6.575	4.528	4.331	7.677
6"	1" CTS	228256	6.638	1.126	1.969	1.201	6.575	4.528	4.331	7.677
6"	2" IPS	228257	6.638	2.378	1.969	1.201	6.575	4.803	6.811	7.677
8"	1/2" CTS	228258	8.605	0.626	1.969	1.201	6.575	5.483	4.586	7.677
8"	3/4" IPS	228259	8.605	1.051	1.969	1.201	6.575	5.315	4.331	7.677
8"	1" CTS	228260	8.605	1.126	1.969	1.201	6.575	5.315	4.331	7.677
8"	2" IPS	228261	8.605	2.378	1.969	1.201	6.575	5.827	6.811	7.677
10" – 16" *	2" IPS	228056	10.75 – 16.00	–	1.969	1.180	6.575	–	7.087	7.677

FRIATEC Safety Fittings can be fused to all PE pipes SDR Range 11 through 17.6.

Allow electrofusion joints to cool prior to handling, pressurizing or tapping.

Allow electrofusion joints to cool prior to handling, pressurizing or tapping.

For 12" and 14" IPS applications, maximum SDR for full coupon cut is SDR 11.

For 16" IPS applications, maximum SDR for full coupon cut is SDR 13.5.

For 12" DIP applications, maximum SDR for full coupon cut is SDR 11.

For 14" and 16" DIP applications, maximum SDR for full coupon cut is SDR 17.



## DAA Tapping Tee Accessories

Description	Product Code
10mm Hex Wrench for 1-1/4" Main DAA Tees	228050
17 mm Hex Wrench for 2" Main DAA Tees	228051
19mm Hex Wrench for 2" x 2" and 3" – 16" Main DAA Tees	228052
Friatop Pneumatic Top Loading Tool for 10" – 16" DAA-TL and all TL fittings	228053
Pressure Test Cap Adapter (optional) for DAA style 1-1/4" Tees	228024
Pressure Test Cap Adapter (optional) for DAA style 2" – 16" Tees	228055
1 1/4" Replacement Cap	228332
2" Service Replacement Cap	228333
2" HV – 12" Replacement Cap	228334



# SCRAPER TOOLS

## Scraper Tools with Accessories



FRIALEN scraper tools are designed to assist the installer in producing a quality electrofusion joint every time.



Scraper Tools	Product Code	Pipe Size Compatibility
FWZ Hand Scraper	328018	all
FWSG 63 Scraper Tool w/ Case	128034	1/2" IPS – 2" IPS
FWSG 315 Scraper Tool w/ Case	128036	3" IPS – 8" IPS 4" DIP – 6" DIP
Scraper Tools w/ Case (complete set) Includes: FWSG 63 & FWSG 315	128039	1/2" IPS – 2" IPS 3" IPS – 10" IPS 4" DIP – 6" DIP
FWSG 710 Scraper Tool w/ Case	128190	6" IPS – 28" IPS 6" DIP – 20" DIP

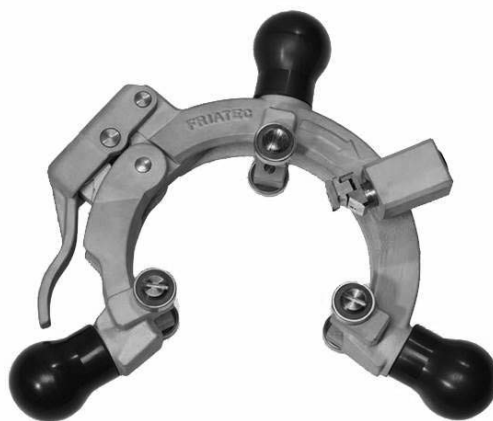
Accessories	Product Code
Spare Blades for FWZ Hand Scraper (set of 5 blades)	328017
Spare Blade Kit for FWSG 63 3 blades, 2 screws, 1 driver	128041
Spare Blade Kit for FWSG 315 3 blades, 2 screws, 1 driver	128040
Spare Blade Kit for FWSG 630/710 3 blades, 2 screws, 1 driver	128042
Aluminum Carrying Case for FWSG 630-710 Scraper Tool	128198
Aluminum Carrying Case for FWSG 63-315 Scraper Tool	128035



## **EFS** Scraper Tools

The FWSG-SE Series of scraping tools are designed to mount on any part of the pipe, so it can be used to prepare the pipe surface for almost any type of electrofusion fitting: tapping tees, branch saddles or even couplings and elbows. With many utilities moving away from hand scraping, there has never been a better time to acquire a truly exceptional scraping tool.

- Available from 2" – 12" sizes
- Easily mounts on any position on pipe using its 3/4 circumference open jaw with clamping lever.
- The 3/4 circumference reduces the excavation preparation required by other tools.
- Ultra-low drag compared to other tools, and a consistent swarf, minimum 0.008" thick is produced.
- Double sided blade allows easy field blade changes while extending life of scraper blade and lowering maintenance costs.



### **FWSG-SE Scraping Tools**

Pipe Size	Product Code
2"	128223
3"	128222
4"	128217
6"	128218
8"	128219
12"	128220
EFS Replacement Blade	228452

# RE-ROUND CLAMPS

## Hydraulic Re-Round Clamps



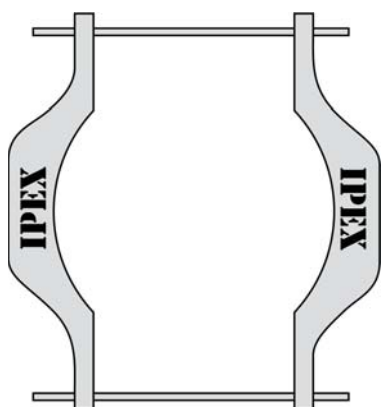
If the end of a PE pipe is not perfectly round, the coupling will not fit over the end of the pipe. Our Re-Round Clamps solve this problem.

The clamping unit is comprised of:

- 1 – Hydraulic clamping unit
- 2 – Component inserts

**Available Special Order Only**

## New IPEX Reround Tools



Our three new, re-designed tools now cover from 10" IPS/DIP right up to 36" IPS/ DIP diameters. The tools are shipped in a durable crate and are lightweight and are easy to install.

- Made of tough coated steel and designed to withstand the rigors of jobsite installation.
- Light and easy to install
- Three tools cover a wide range of available diameters.
- Shipped in a durable crate for easy storage

Description	Product Code
10" IPS/DIP – 16" IPS/DIP	228358
18" IPS/DIP – 26" IPS/DIP	228359
28" IPS/DIP – 36" IPS/DIP	228338



## Alignment Clamps – IPS / DIP

Each alignment clamp listed in the table aligns only one size pipe. Select tool according to pipe size to be aligned.



Description – Single	Product Code
1-1/4" IPS	228244
2" IPS	228137
3" IPS	228248
4" IPS	228138
4" DIP	228263
6" IPS	228139
6" DIP	228264
8" IPS	228246

Description – Double	Product Code
1-1/4" IPS	228245
2" IPS	228140
3" IPS	228249
4" IPS	228141
6" IPS	228142
8" IPS	228247

## Manual Re-Rounding Tools

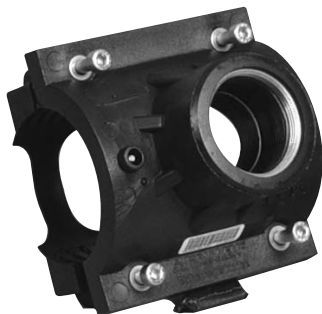
Our industrial-quality re-rounding tools for the gas and water industries has a reputation of being the best-quality tools on the market.

Description	Product Code
6" IPS/DIP – 12" IPS/DIP Re-Round Tool	228271
12" IPS/DIP – 20" IPS/DIP Re-Round Tool	228278
20" IPS – 28" IPS & 20" – 24" DIP Re-Round Tool	228275



# SADDLES

## VA Electrofusion Service Saddles



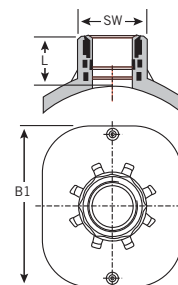
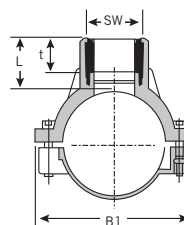
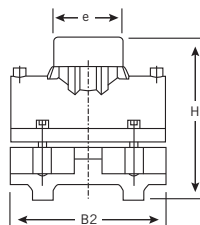
Field of Application Installation of service and branch pipes

Range of Application Gas up to 100 psi  
Water up to 200 psi

Friatec Molded Saddle Fittings may be clamped onto pipes up to SDR 11 and sealed using electrofusion.

### Benefits include:

- Universal compatibility with various diameters of polyethylene pipe from 3" up to 22" IPS
- Quick, easy and safe assembly
- NSF-61



Nominal Pipe d1 (in)	Main Size d2	Nominal Outlet	Product Code	B1	B2	H	L	t	e
3"	IPS	2" SSPT	228262	6.102	5.906	7.835	3.740	1.063	3.189
4"	IPS	2" SSPT	228170	6.890	7.087	8.228	3.740	1.063	3.189
4"	DIP	2" SSPT	228298	6.890	7.087	8.228	3.740	1.063	3.189
6"	IPS	2" SSPT	228171	8.858	7.677	10.197	3.740	1.063	3.189
6"	DIP	2" SSPT	228302	8.858	7.677	10.197	3.740	1.063	3.189
8" – TL *	IPS	2" SSPT	228218	9.843	7.677	11.693	3.740	1.063	3.189
8" – TL *	DIP	2" SSPT	228173	10.039	7.677	12.283	3.740	1.063	3.189
10" – 22" TL *	IPS	2" SSPT	228174	7.874	–	–	3.543	–	–
10" – 20" TL *	DIP	2" SSPT							

\* FRIATEC Pneumatic Top-loading tool required

FRIATEC Safety fittings can be fused to all PE pipes SDR range 11 through 17.6.

Assemble nipple, bushing or corporation stop into saddle using red LOCTITE #262

(SSPT) = Straight Standard Pipe Thread. The use of tapered fittings for the outlet is not permitted

## SSPT Reducer Bushings



Description	Product Code
2" x 3/4" Male SSPT x Female NPT	228453
2" x 1" Male SSPT x Female NPT	228454
2" x 1 1/2" Male SSPT x Female NPT	228455



## SA Branch Saddles

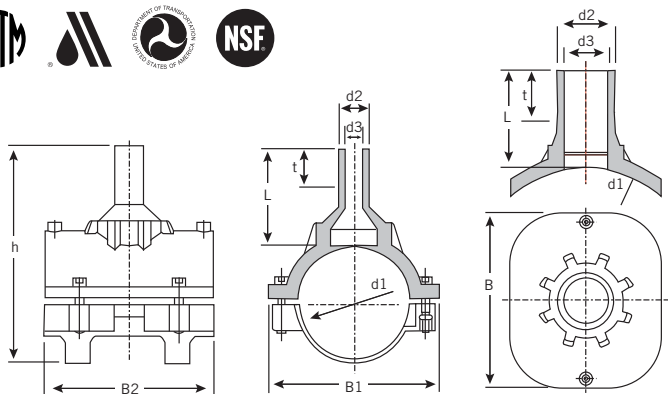
**Field of Application** Installation of service and branch pipes to PE pipes 2406/2708 and 3408/4710

**Range of Application** Gas up to 100 psi  
Water up to 200 psi

SA Branch Saddles are available with either a 2", 3" or 4" outlet

### Benefits include:

- NSF-61



Nominal Pipe d1 (in)	Main Size d2	Nominal Outlet	Product Code	d3	L	h	t	B1	B2
* 3"	IPS	2 IPS	228184	1.969	4.055	8.150	2.756	6.102	5.906
* 4"	IPS	2 IPS	228185	1.929	4.291	9.173	2.205	6.890	7.087
* 4"	DIPS	2 IPS	228296	1.929	4.291	9.173	2.205	6.890	7.087
* 6"	IPS	3 IPS	228180	2.717	5.079	11.496	3.937	8.543	9.646
* 6"	IPS	4 IPS	228277	3.543	5.512	12.256	4.291	9.055	10.433
* 8"	IPS	4 IPS	228276	3.543	5.512	14.256	4.370	11.220	11.024
*† 10" – 22" – TL	IPS	3 IPS	228187	2.402	4.567	–	3.150	–	7.874
*† 10" – 20" – TL	DIPS								

\* FRIATEC Pneumatic Top-loading tool required

† Comes with undersaddle

The saddle of the FRIATEC Safety Fittings can be fused to all PE pipes SDR range 11 through 17.5.

The end of the outlet can be electrofused to all PE pipes SDR range 11 through 17.5.

PE pipes of different melt index groups can be joined.



## SPA Electrofusion Shut Off Saddles

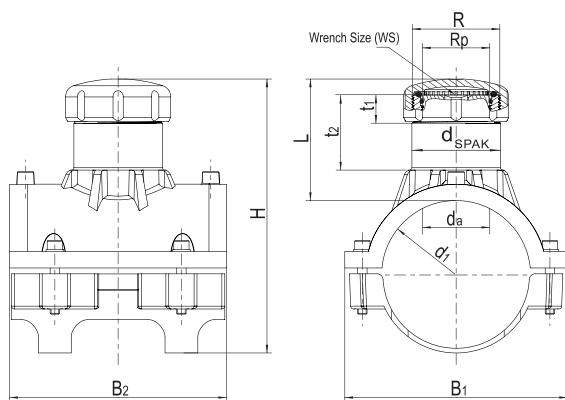


**Field of Application** Specially designed saddle that can be used with commercial shut off equipment on PE 2406/2708 and 3408/4710 pipes.

**Range of Application** Gas up to 100 psi  
Water up to 200 psi

These ratings refer to the fitting only. Refer to the manufacturer of the shut off equipment for the operational parameters allowed when stopping gas or water flow.

FRIALEN SPA Shut Off Saddles are simply the best option for areas where temporary shut off equipment may be used. In addition, they provide a potential access point for inspection equipment. They are very compact with a robust design that incorporates a heavy externally threaded brass cap that ensures a safe connection with shut off equipment. The branch is also threaded internally and comes equipped with a heavy brass threaded plug that can be sealed for protection with a cap if necessary.



$d_i$	R	$R_p$	Order Ref.	BX	PU	L	$t_1$	$t_2$	$d_{SPAK}$ (mm)	H	$B_1$	$B_2$	WS (mm)	Drilling $\phi d_a$	Weight kg/each
3 IPS	G 2-1/2"	G 2"	616565	16	128	4.094	0.945	2.520	75	7.712	6.142	5.906	19	2.224	1.380
4 IPS	G 2-1/2"	G 2"	616566	12	96	4.094	0.945	2.520	75	8.752	7.008	7.086	19	2.224	1.540
6 IPS	G 2-1/2"	G 2"	616567	8	64	4.094	0.945	2.520	75	10.846	9.055	7.677	19	2.224	1.860
8 IPS	G 2-1/2"	G 2"	616542	5	40	4.094	0.945	2.520	75	12.835	10.157	7.598	19	2.224	1.900
10 – 12 IPS	G 2-1/2"	G 2"	616568*	18	144	4.094	0.945	2.520	75	–	7.914	7.874	19	2.224	1.200

\* Top-Loading version

FRIATEC Safety Fittings can be fused to all PE pipes SDR Range 11 through 17.6.

# REPAIR PATCHES AND CLAMPS



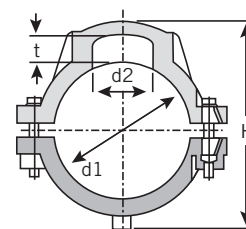
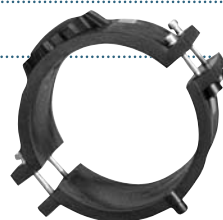
## For Pipe Repairs up to 22"

**Field of Application** Repair of small damage leakage.  
Repair of areas with surface damage that are compatible with PE 2406/2708 pipes as well as PE 3408/4710 pipes.

**Range of Application** Gas up to 100 psi  
Water up to 200 psi

If a pipe is damaged, FRIATEC Repair Patches and Clamps are the quick reliable way to make the repair.

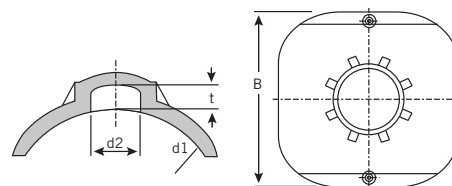
FRIATEC pipe repair systems are both simple to use and effective for pipe repair up to 22". Our repair systems make use of existing FRIATEC technology to seal a pipe puncture.



### Repair Clamps – Under saddle

Nominal Pipe	Main Size	Product Code	d1	d2	H	t	Cold Zone Width (Center)*
3"	IPS	228175	3.500	1.969	5.827	0.827	2.953"/75mm
4"	IPS	228176	4.500	1.969	6.614	0.827	3.071"/78mm
4"	DIP	228295	4.500	1.969	6.614	0.827	3.071"/78mm
6"	IPS	228177	6.625	1.969	8.583	0.827	3.346"/85mm
6"	DIP	228307	6.625	1.969	8.583	0.827	3.346"/85mm

\* Largest area of pipe damage this fitting is capable of sealing.



### Repair Patches – Top Loading

Nominal Pipe	Main Size	Product Code	d1	d2	t	B	Cold Zone Width (Center)
8"	IPS *	228178	8.625	1.969	0.827	10.157	3.268"/85mm
8"	DIP *	228310	9.050	1.969	0.827	11.142	3.268"/85mm
10" – 22"	IPS *	228179	10.750 – 28.000	1.969	0.787	7.874	3.307"/83mm
10" – 20"	DIP *		11.100 – 21.600				

\* FRIATEC Pneumatic Top-loading tool required (restriction on 28")

FRIATEC Safety Fittings can be fused to all PE pipes SDR Range 11 through 17.6.

**NOTES**

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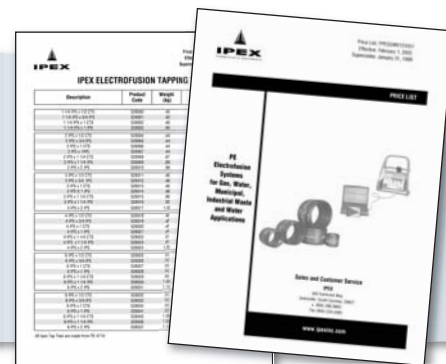
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- Industrial process piping systems
- Municipal pressure and gravity piping systems
- Plumbing and mechanical piping systems
- PE Electrofusion systems for gas and water
- Industrial, plumbing and electrical cements
- Irrigation systems

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