HAYES

WELDING PARAMETERS
Applicable Standard: ASTM F 2620 / U.S.A.

TURBOLP2436-1000   - LOW PRESSURE

Welding ranges:	24" 32" 36" IPS			1 Mpa= 145 PSI = 10 Bar = 1 N/mm²
Max. Pressure:	2320.0 PSI	16 Mpa	160 Bar	1mm=0.1cm=0.03937In=0.001217In²
Cylinder Area (TEPA):	6.02 In²	38.83871 cm²	3883.871 TEPA	1mm² = 0.01 cm² = 0.00155 In²
IFP:	75 PSI	0.517 Mpa	5.17 Bar	
Material:	PE			

Note: Add the (DRAG) 30 PSI = 0.20 Mpa = 0.20 N/mm² = 20.68 N/cm²

Drag pressure is the pressure to overcome the friction during machine carriage movement. It should be added to the total fusion pressure.

This machine has a **max pressure of 2320 PSI** and a **cylinder area of 6.02 In²** if the pipe to weld exceed the max pressure, you need to use the next size Machine, which has more force due to a larger cylinder area or pressure.

The lower the SDR pipe number, the thicker the wall of the pipe will be. Which requires more time and pressure to complete a proper weld.

IMPORTANT

Pipe and fitting manufacturers have established qualified fusion procedure which should be followed precisely. You should obtain a copy of the pipe manufacturer's fusion procedures or appropriate joining standard for the pipe being fused. Follow the procedure carefully and adhere to all specified parameters.
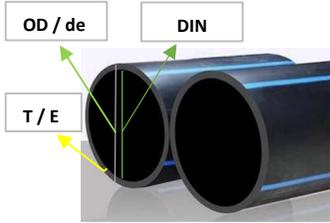
Butt fusion Terminology

Welding terminology
T = Time
P = Pressure
B = Bead size
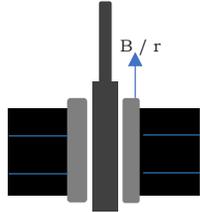
Pipe terminology
ND = Nominal **D**iameter
DIN = Internal Diameter
OD = Outside **D**iameter
T = Thickness
PN = Nominal **P**ressure
SDR = Standard **D**imensional **R**atio
Relation between the Outside diameter and Thickness of the wall

Temperature terminology
Celsius to Fahrenheit
1°C = 33.8 °F   **1°F =** -17.22 °C
¿°F? = (⟩ ¿°C? = (X°F − 32 * 5/9) = °C

Pressure terminology

PSI=   Pound square inches
MPa=   Mega Pascal
1 MPa= 10 Bar = 145 PSI = 1 N/mm² = 100 N/cm²
1 In² =   6.4516 cm²
1 cm² =   100 mm² = 0.155 In²
1 mm²= 0.01 cm² = 0.00155 In² = 0.00001076 Ft²
1 mm = 0.1 cm = 0.03937 In = 0.7854 mm² = 0.001217 In²

+ 30 PSI											
					P1		P2	T2	T3	T4	P5	T5
Pipe Size	OD	Wall Thickness	SDR	Heater Temp	Bead Up Force	(+30PSI Drag)	Heat Soak Force	Heat Soak time	Remove Heating tool	Start Fusion	Fuse/Cool Force	Cooling time
Inch	Inch	mm	SDR	°F	PSI	PSI	PSI	S	S	S	PSI	Min
36	36	4.00	9	450	5007	5037	30	43	4	4	5007	1.7
36	36	3.27	11	450	4190	4220	30	35	4	4	4190	1.4
36	36	2.67	13.5	450	3477	3507	30	28	4	4	3477	1.2
36	36	2.12	17	450	2807	2837	30	23	4	4	2807	0.9
36	36	1.71	21	450	2299	2329	30	18	4	4	2299	0.7
36	36	1.38	26	450	1875	1905	30	15	4	4	1875	0.6
36	36	1.11	32.5	450	1512	1542	30	12	4	4	1512	0.5

+ 30 PSI											
					P1		P2	T2	T3	T4	P5	T5
Pipe Size	OD	Wall Thickness	SDR	Heater Temp	Bead Up Force	(+30PSI Drag)	Heat Soak Force	Heat Soak time	Remove Heating tool	Start Fusion	Fuse/Cool Force	Cooling time
Inch	Inch	mm	SDR	°F	PSI	PSI	PSI	S	S	S	PSI	Min
32	32	3.56	9	450	3956	3986	30	38	4	4	3956	1.5
32	32	2.91	11	450	3311	3341	30	31	4	4	3311	1.3
32	32	2.37	13.5	450	2747	2777	30	25	4	4	2747	1.0
32	32	1.88	17	450	2218	2248	30	20	4	4	2218	0.8
32	32	1.52	21	450	1817	1847	30	16	4	4	1817	0.7
32	32	1.23	26	450	1481	1511	30	13	4	4	1481	0.5
32	32	0.98	32.5	450	1195	1225	30	10	4	4	1195	0.4

+ 30 PSI											
					P1		P2	T2	T3	T4	P5	T5
Pipe Size	OD	Wall Thickness	SDR	Heater Temp	Bead Up Force	(+30PSI Drag)	Heat Soak Force	Heat Soak time	Remove Heating tool	Start Fusion	Fuse/Cool Force	Cooling time
Inch	Inch	mm	SDR	°F	PSI	PSI	PSI	S	S	S	PSI	Min
24	24	2.67	9	450	2225	2255	30	28	4	4	2225	1.2
24	24	2.18	11	450	1862	1892	30	23	4	4	1862	0.9
24	24	1.78	13.5	450	1545	1575	30	19	4	4	1545	0.8
24	24	1.41	17	450	1247	1277	30	15	4	4	1247	0.6
24	24	1.14	21	450	1022	1052	30	12	4	4	1022	0.5
24	24	0.92	26	450	833	863	30	10	4	4	833	0.4
24	24	0.74	32.5	450	672	702	30	8	4	4	672	0.3