

SM 25L HP / AP

Hand
pump

Air
pump



TECHNICAL SPECIFICATIONS

**Optional
STANDARD DIE SETS**

	Range (mm)	Length
38-06	6-16	45
38-08	8-18	45
38-11	11-21	45
38-14	14-24	45
38-17	17-27	45
38-20	20-30	55
38-23	23-33	55
38-26	26-36	55
38-30S	30-40	60
38-34S	34-44	60
38-39S	39-49	65
38-45S	45-55	65
38-51S*	51-61	65

* Max. ferrule diameter before crimping 61 mm

Max hose size	1" 4 SH, 1 1/2"
Crimping force (kN)	1200
Max ferrule diameter (mm)	61
Max opening diameter (mm)	die diameter + 15
Actuation / HP model	Two-speed hand pump
Actuation / AP model	Air pressure
Control	Micrometer with led
Master dies opening / Length (mm)	90/64,5
Crimping range (mm)	6 – 61
Crimping unit weight (kg)	25
Crimping unit dimensions (LxWxH mm)	230 x 200 x 275

HAND PUMP / AIR PUMP



GENERAL INSTRUCTIONS

General Information

The SM 25L AP is a powerful portable swaging machine ideal for use in where ever compressed air is available. Swaging is controlled by micrometer knob with led indicator. The SM 25L AP is delivered with an air hydraulic pump with fully filled oil tank.

This machine is designed for crimping hose fittings only!

Usage for other purposes at user's own risk!



Safety precautions

Never crimp a fitting which outer diameter exceeds die diameter +10 mm!

Never operate the pump which hose is disconnected from cylinder!

Never disconnect hose between cylinder and pump if not completely opened!

Always open the cylinder completely after crimping!

Always disconnect air connection before changing the die set!

Always disconnect air connection when machine is not in use!

Set up

- 1. Remove plugs from quick couplers of cylinder and hose**
- 2. Connect the hose to the cylinder**
- 3. Mount the air hydraulic pump to secure place on the floor**
- 4. Replace sealed fill plug with vented plug**
- 5. Do not yet connect the compressed air**

Die set pin mounting

Each die set is delivered with 8 pcs of the die set pins. Carefully check whether all die set pins are firmly tightened onto the die set. Use thread locker glue to fix the die set pins.

SWAGING INSTRUCTIONS




Choosing the correct die set

The correct swaging diameter can be asked to the manufacturer of the fittings. The last two numbers of the die set, is the smallest possible swaging diameter. For swaging, choose the closest die set which is smaller than the desired diameter. Each die set has a recommended range of swaging diameters; see the white area in the table. If necessary you can use the grey

area, but only if the outer diameter of the fitting does **not exceed** the size of the die set with 10 mm. For example with the die set 25-23, you should not swage fittings which outer diameter is over 33 mm! (See diagram)



Standard die sets

DIE SIZE	FERRULE MAX Ø											
		0	1	2	3	4	5	6	7	8	9	10
38-06	16	6	7	8								
38-08	18	8	9	10	11							
38-11	21	11	12	13	14							
38-14	24	14	15	16	17							
38-17	27	17	18	19	20							
38-20	30	20	21	22	23							
38-23	33	23	24	25	26							
38-26	36	26	27	28	29	30						
38-30S	40	30	31	32	33	34						
38-34S	44	34	35	36	37	38	39					
38-39S	49	39	40	41	42	43	44	45				
38-45S	55	45	46	47	48	49	50	51				
38-51S	61	51	52	53	54	55	56	57	58	59	60	61

Installing the die sets one by one

1. Check that the cylinder is completely opened
2. Check that compressed air is not connected
3. Remove the dies one by one.
4. Mount the new dies one by one.

Setting the swaging diameter

1. Swaging diameter adjustable range is 0-10mm. One complete turn of the knob is one millimetre and each turn is divided one tenth of millimetre.
2. Example of setting: Desired swaging diameter is 24,6. Use the die set 25-23, adjust the micrometer knob to 1,6 ($23+1.6=24.6$)

Swaging

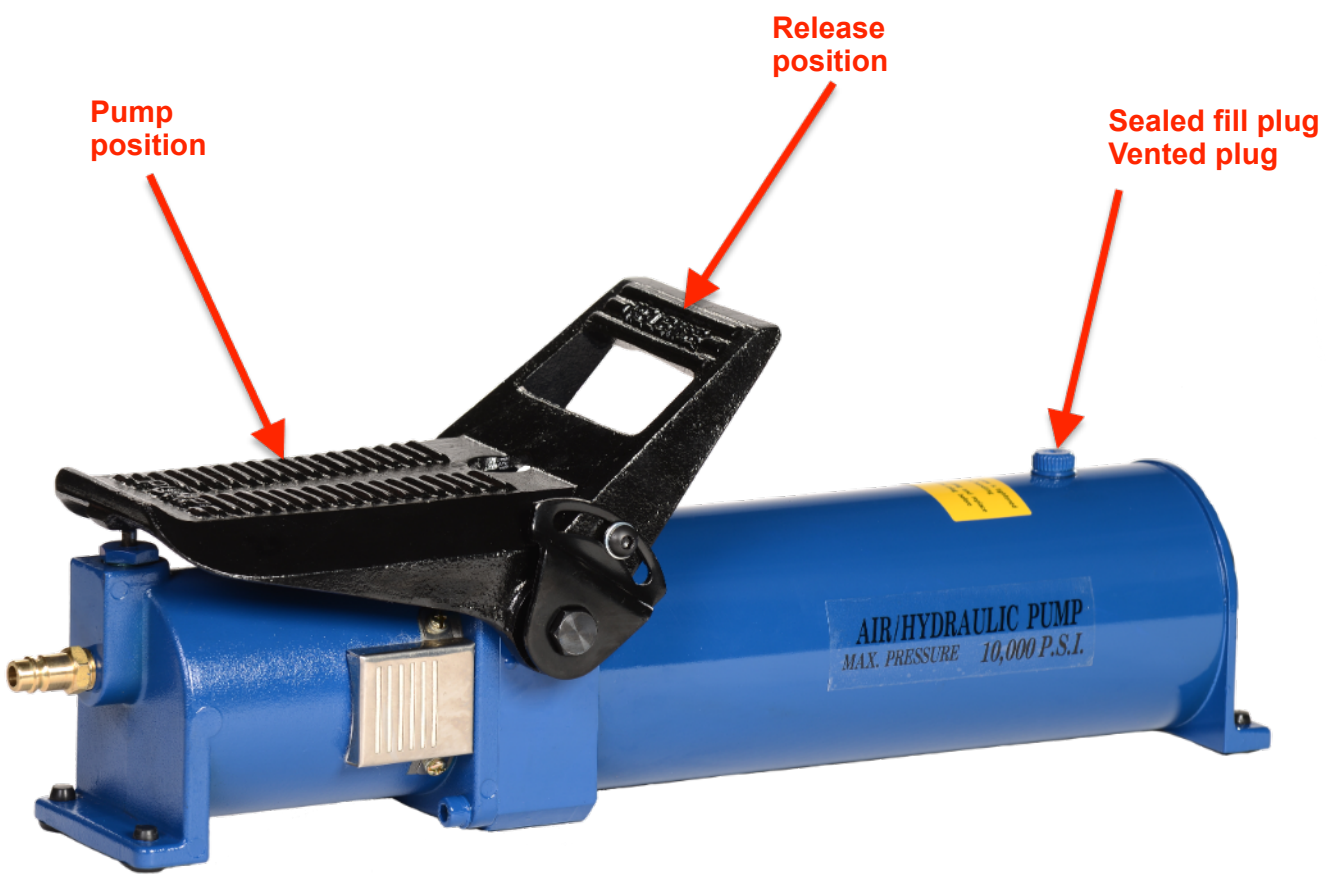
1. Connect the compressed air. Mount the hose with fitting to the middle of the dies, check whether the fitting is in the proper position and start crimping by depressing the foot pedal end marked as "Pump"
2. Keep crimping until led mounted middle of the micrometer lights. Release the foot pedal immediately. Hint: Actually you can first set the swaging diameter 0.2-0.5mm greater than final swaging diameter. Then crimp until led lights, set the final swaging diameter and carefully crimp until led lights again. In that way it's easier to avoid crimping too tight.
3. Open the cylinder completely by depressing the foot pedal end marked as "Release".
4. Check diameter of the ferrule with a calliper nonetheless the diameter of the ferrule is only a guideline. In order to ensure the quality of swaging you need an interpreter with correct diameter. By pushing the interpreter into insert you find out whether the swaging has succeeded or not. For successful swaging the inner diameter of insert ought to be decreased. Ask more detailed information from supplier of fittings.
5. After finishing the swaging, always leave the foot pedal on "Release" position.

Maintenance

Regularly clean the master dies and die sets when they look dirty. An old tooth brush can be helpful. The cylinder should be cleaned out from all metal dust by using a small magnet. After 8 hours of use, the master dies have to be properly cleaned and greased with our special high quality grease (molybdenum grease: Castrol Viscogen 4). Ask your distributor for more information and availability of our grease.

- Keep the machine sheltered from water, snow and dirt, because the cylinder pipe is easily damaged. Water and dirt will corrode the pipe.
- Keep the machine always in the upright position
- Never try to crimp to the smaller diameter than currently mounted die set size
- *Battery test:* Turn selector knob to 10,0 and then crimp without any die set. Led should light when master die diameter is smaller than 85mm.
- *Battery change:* Remove the cap of micrometer knob by turning it counter clockwise. Replace the battery. Do not mix up arrangement of other parts!

The hydraulic oil should be changed after the first 500 hours, afterwards every 1000 hours. We Recommend Shell Tellus T15 or equivalent



Pump position

Release position

Sealed fill plug
Vented plug

AIR/HYDRAULIC PUMP
MAX. PRESSURE 10,000 P.S.I.

Technical Specifications

Max. hose size	1" 4SH, 1 ½" (Max ferrule Ø 61mm)
Die opening	15 mm
Swaging force	1200 kN
Max. pressure	700 bar
Battery	3V lithium 3.2x16mm, type CR1632-C1
Hydraulic oil type	Shell Tellus T15
Oil volume	0.6 L
Recommended minimum air consumption:	
Inlet:	350-400L/min
@ 7.6bar:	250L/min

Crimping unit dimensions

Height	275 mm
Width	235 mm
Depth	220 mm
Weight	25 kg