

Sapsons



**Tube Expanders
Tube Expanding Equipments
And Accessories**

Fully Automatic Digital Display Electronic Tube Rolling Controller



Sleek Type Solid State Electronic Torque Controller.

Model No : STCP - 23010- With Supply Voltage of 220Volts.

Model No : STCP-11020- With Supply Voltage of 110Volts.

Tube Expansion Drive Units



SM-0



SM-2



SM-1



SM-3

SPECIFICATION

DRIVE MODEL		NO LOAD SPEED R.P.M	EXPANSION RANGE		DRIVE WEIGHT KGS.	FULL LOAD CURRENT AMPS	
220 V	110 V		S. STEEL TUBE M.M	COPPER TUBE M.M		230 V	110 V
SM-0	SM-0L	700	6 to 12	8 to 16	2.8	1.3	2.6
SM-1	SM-1L	550	10 to 16	13 to 22	4.1	3.4	6.8
SM-2	SM-2L	560	16 to 28	19 to 34	7.7	4.0	8.0
SM-2TS	SM-2TSL	1380/560	16 to 28	19 to 34	5.4	2.75	5.5
SM-3	SM-3L	380	25 to 45	38 to 65	11.3	6.0	12.0
SM-2M5	SM-L2M5	112	25 to 50	38 to 70	10.0	4.0	8.0
SM-3M5	SM-3LM5	56	25 to 57	38 to 100	16.0	6.0	12.0
SM-2M25	SM-2LM25	21	38 to 63	-	15.0	4.0	8.0
SM-3M25	SM-3LM25	11	50 to 104	-	19.0	6.0	12.0

Electronic torque produced by Sapsons Electric Tube Expansion Drive Unit is governed by the Electronic control panel which is adjusted by a simple digital display. When the Electrically Driven Motor reaches the desired torque, the control unit mechanism automatically shuts off the power and on pressing the reverse button the tube expander retracts out from the tube. The fully automatic system ensures the tubes are rolled to maximum tightness without inducing excessive cold worked stress tube metal, injuring tube ends or distorting tube sheet ligaments.

Tube Expanders For Heat Exchanger and Condenser

SN-SERIES

For tubes of ID \therefore 0.152" (3.8mm) to 0.331" (8.4mm) in roller lengths of 1" (25.4mm) and 1.1/2" (38mm) tube expansion length 1/4" (6.35mm) to 1" (25.4mm).



S-900 SERIES

For tubes of ID \therefore 0.152" (3.8mm) to 0.331" (8.4mm) in roller lengths of 3/4" (19.05mm) and 1.1/4" tube expansion length 1/4" (6.35mm) to 1.1/4" (31.75mm)



S-1300 SERIES

For tubes of ID \therefore 0.231" (5.8mm) to 0.331" (8.4mm) Available in roller lengths of 3/4" (19.05mm) and 1.14" (31.75mm) tube expansion length 3/4" (19.05mm) to 3.1/2" (88.9mm).



S- 800 SERIES

For tubes of ID \therefore 0.334" (8.4mm) to 1.43" (36.3mm) in roller lengths of 1.1/2" (38.1mm) and 2.1/4" (57.1mm) tube expansion length 1/2" (12.7mm) to 2.1/4" (57.1mm)



S- 1200 SERIES

For tubes of ID \therefore 0.334" (8.4mm) to 1.43" (36.3mm) available in roller lengths of 1.1/2" (38.1mm) and 2.1/4" (57.1mm) & range of models to cover expansion length 1.1/2" (38.1mm) to 12.3/4" (323.85mm).



S- 8012 SERIES

For tubes of ID \therefore 1.420" (36.1mm) to 2.902" (73.7mm) available in roller lengths of 2.1/4" (57.1mm) to 2.902" (73.7mm) to cover tube expansion length 1/2" (12.7mm) to 4" (101.6mm).





Tube Expanders For Boilers and Sugar Industry



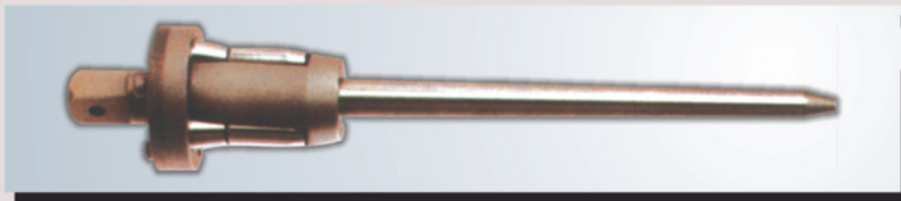
'SA' Series

3 Rollers parallel tube expanders, to suit plain tube expansion of boiler tubes. To suit tubes of sizes ranging from 7/8" O.D to 4.1/2" O.D. A range of

models available to cover tube expansion lengths of 1/2" to 2.5/8". Drum/Header/Short series Mandrels available, to suit specific applications.

'SAF 1' Series

3 Plain Rollers with 1 Flare roller tube expander to suit flare type tube expansion of boiler tubes. To suit tube 7/8" O.D. to 4.1/2" O.D. A range of model cover tube expansion length of 1/2" to 2.5/8". Header/short series Mandrels available, to applications.



SAF 3' /S-114 Flare Type

To suit tube ranging from 7/8" O. D. to 4.1/2". These are special series of tube

expanders with 3 Plain Expanding rolls and 3 flare rolls, to suit parallel expansion along with flaring of boiler tubes uniformly. These expanders are available with Drums/Header/Short series Mandrels.

'SCSB' Series, SD Series & 'SCS'

These are special purpose tube expanders to meet exacting needs of Sugar Industry & Dairy Industry applications. These tube expanders are specially designed to suit applications, as expansion of stainless steel tubes/expanding vertical tubes, in pans, evaporators and juice heaters, at both upper & lower tube sheets.



Also special tube expanders are supplied by us for following applications:

1. For expanding calendria tubes of Reactors in Nuclear Plants.
2. Diesel engine expanders.
3. Step rolling expanders.
4. Expanders for Refinery fittings.
5. Navy expanders.
6. Long reach adjustable expanders.

Tube Installation & Removal Tools

Manual Tube Puller

To pull stub ends from tube sheet after internal tube cutting.
Available for 5/8" to 1.1/2" O.D. tube size.



Tube Guide

Consists of aluminium tapered nose with replaceable nylon brush used to guide tubes through tube and support plate holes. Speeds up the assembly operation and prevents tube end damage during assembly. The nylon brush fits in the tube end holding pilot firmly in place.

Push Type Tube Cutter

The most versatile cutter. The cutter blade depth can be adjusted.
Available for 5/8" to 4" O.D. Tubes.



Tube Drift

Designed to remove tubes from the tube sheets, available for 1/2" to 1.1/2" O.D. Tubes with different shape of shank. Other sizes on request.

Collapsing Tool

Designed to collapse tubes in the tube sheet after cutting, available for 1/2" to 1.1/2" O.D. Tubes with different shape of shank. Other sizes on request.

Collapsing Tool



Other Products

- Tube end facers
- Tube plug

- Tube end flaring tool
- Tube wall reducer

- Tube sheet hole reamer
- Tube end facing / Chamfering tool

Automatic Recessing / Grooving Tool

For precision grooving of heat exchanger tubes, boiler drums and headers



SAPSONS Automatic Grooving Tool besides Catering to various applications for Internal Grooving is specially designed for Matching Grooves in Tube Sheet Holes to aid in Locking Rolled Tubes into Position during Tube Expansion.

It incorporates the Proven and accepted Principle of an eccentric Tool Holder turning on its own Axis.

As the Tool moves into the work piece/ Tube Sheet, the Pilot nose contacts the face of the work piece/ Tube Sheet, the cutter is now in the position to cut. Continued movement of the Tool starts the feed stroke which actuates the cutter and feeds it readily into the work.

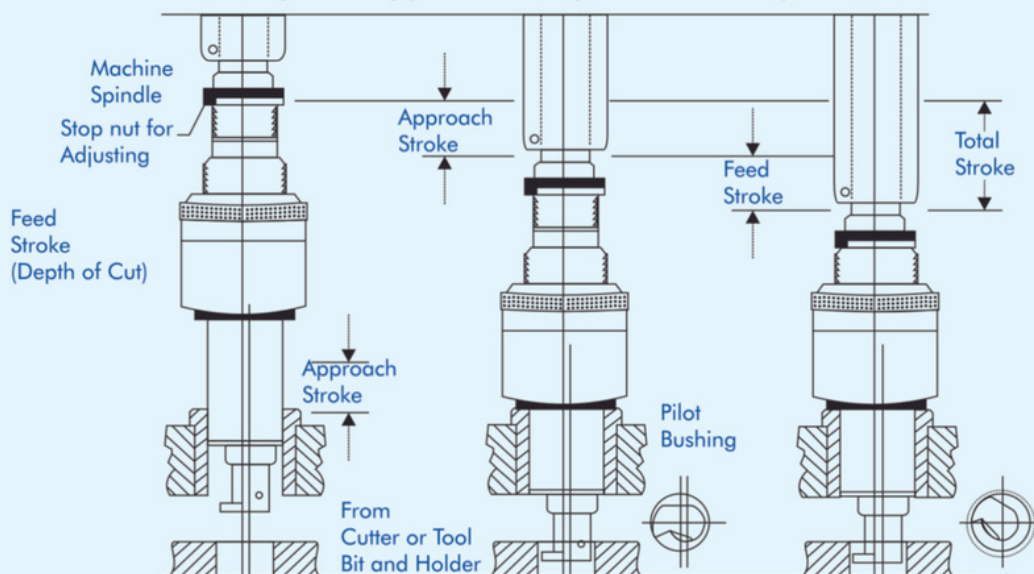
The location of cut is controlled by a quick lock Adjustable Collar, the depth of cut is also controlled by a Quick Lock-Stop Nut, which permits simple, fast and accurate adjustments.

Features

- Accurate and Quick
- Covers wide range of bores by simply changing cutters & pilot nose
- User friendly easy to adjust length & depth of cut
- Automatic two in one design
- Form cutter and tool bit with different groove configuration can be supplied

Tool No.	Tube Sheet Hole Diameter	Maximum Groove Depth	Adjustable Range (Face to Groove)	Shank Size (Morse Taper)
1SNW2MT	9.0 - 32.0	2.00	3.0 - 9.5	2
3SNW3MT	16.0 - 45.0	3.50	3.0 - 14.0	3
4SNW4MT	19.0 - 48.0	4.50	3.0 - 14.0	4
6SNW5MT	38.0 - 114.0	7.60	3.0 - 16.0	5

Special application of pilot in bushing



Continuous Hydraulic Tube Puller

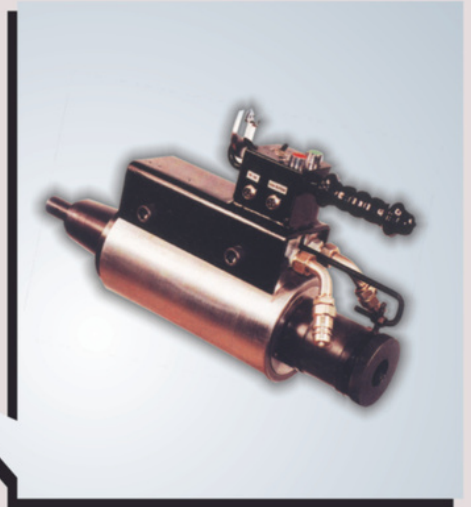


Hydraulic Pulling Power Pack

Available with 5 HP (HEP-50) and 7.5 HP (HEP-7.5) in Electric and 6 HP (HPP-60) in Pneumatic System.

Hydraulic Tube Pulling Guns

Available with 15 ton, 30 ton and 45 tons capacity.

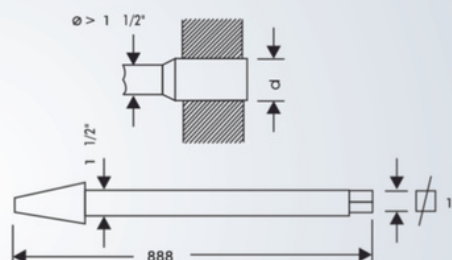
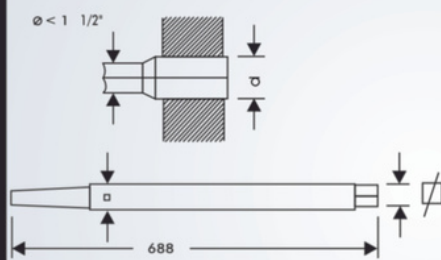


Features

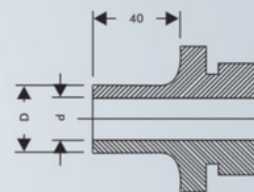
- Automatic Slow Start feature.
- Low setup time and ease of operation.
- Removes tube without any damage to tube sheet.
- Significant saving of time and money over conventional systems.
- Low maintenance cost and worldwide availability of components.
- Unit is portable with handle and mounted on four wheels for easy handling.
- Available with a choice of Electric or Pneumatic for various working environments.
- Suitable for tube sizes upto 3" O.D. tube for continuous pulling & 4" O.D. tube stub pulling.
- Interchangeable pulling guns with same Powerpack. 15 ton gun for light duty high speed work, 30 ton gun for heavy duty pulling and 45 ton gun for tubes upto 3" O.D.
- High speed automatic cycling at high power.

Working Consumables

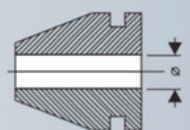
(A) Mandrels (Spears)



(B) Collars



(C) Jaw Set



Optional Accessories



Impact wrench

for threading the mandrels into the tube.



Spring Balanceers

For suspending the pulling Gun.



Sockets

For driving the mandrels with Impact wrench.

Hydraulic Tube Expansion System



SALIENT FEATURES

- Compact design - Ideally suitable for Tube Expansion job inside Boiler drums or in Confined Areas.
- Safe as the operative current is very low (only 24 volts).
- The drive operates very smoothly as the speed drops marginally, on load.
- Salient operation compares to electrical or Pneumatic Drives.
- System wear is minimal.
- Ensures uniformity in tube expansion, due to accurate Torque Control by pressure setting on power pack.
- The expansion job is completed very fast with less man power, thus saving time and money.
- Low maintenance and longer life.

Drive Selection Chart :

Model No.	HRD-4	HRD-5	HRD-6
Capacity (Tube O.D. Steel)	3/4" - 1.1/2"	1.1/2" - 3"	2" - 4"
Load Speed	600 rpm	150 rpm	80 rpm

Power Pack Specification :

Model No.	HRP-5	Power pack supplied with electric cable & Hydraulic Hoses of 10 Mtr. long. 15 & 20 Mtr. Long Hoses are also supplied against order , Seperately.
Supply	440V : 3Phase	
Motor	5 HP	
Weight	180 Kg.	

SAPSONS HYDRAULICS & INDUSTRIAL TOOLS

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