

Small Cutting Machine

ESAB-straight line and circle cutting machines.

Special Features :

- **Easy to handle**

The Machines are light weight., and they have a wrap round handle for easy portability and protection.

- **Body**

Made of pressed steel with wrap/round handle and fibre glass heat deflector.

- **Versatile**

Using extendable tracks, these machines can produce straight cuts on any length, square or bevel edge. With the same precision these machines can cut circles and also shape with gradual curves, when hand-guided.

- **Circle Cutting**

Can be done with the use of circle cutting attachments, supplied as optional extra. This can be easily attached to the machines by two screws.

- **Cutter**

PUG and Cheetah : Injector type, specially designed to prevent backfire.

PUG NM : Nozzle mixing type, latest technology, much safer.

- **Cutter adjustment**

Can be Swivelled to cut levels up to 45° with Rack and Pinion.

- **Fuel Gas**

Acetylene or LPG can be used by selecting the appropriate nozzles. Two nozzles for use with Acetylene for cutting MS from 6 mm to 75 mm thickness supplied along with the machine. Cutter types and sizes are available as optional extras.

- **Motor**

Machine are fitted with 220 volts Fractional Horse Power geared reversible motors. Power is fed through a Forward-Reverse toggle Switch.

- **Track**

1.8 meter long Aluminium Track (for PUG & PUG NM) or Steel Track (for Cheetah) can be supplied as optional extra. The PUG/PUG NM Machines may be set to follow the edge of any straight piece of metal, 8 x 20 mm.

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Specifications

MODEL NAME	ESAB PUG	ESAB PUG-NM	ESAB CHEETAH
Cutting Capacity :			
Square Cuts	Upto 75 mm thick MS	Upto 100 mm thick MS	Upto 150 mm thick MS
Bevel cuts (Upto 45°)	Upto 50 mm thick MS	Upto 75 mm thick MS	Upto 100 mm thick MS
Circles	75-1140 mm diameter	75-1140 mm diameter	150-1140 mm diameter
(Using standard circle cutting attachments, which can be supplied as an optional extra)			
Cutting Speed	190-800 mm/min	190-800 mm/min	120-500 mm/min
Cutter	IMC-3 Injector type	NM - type	IMC-150 Injector Type
Speed Control	Rotary resistance	Rotary resistance	Solid State Circuitry
Gas Hose Connections (for 5 mm Hose)	1/4" BSP RH & LH	1/4" BSP RH & LH	1/4" BSP RH & LH

Optional: i) Circle cutting attachments ii) Extra nozzles for torches
iii) Aluminium tracks

Cutting Nozzles

NOZZLE

- Hard drawn Tellurium copper used in one piece nozzles
-withstands heat & wear
-out lasts any copper nozzles
- One piece nozzle has swaged interior
-Gas passages are mirror smooth with internal angles rounded
-Non-turbulent more efficient gas flow.
-Clean smooth cuts with minimal kerf loss
- Preheat ports are closely spaced around cutting orifice
-For greater concentration of preheat flames.
- Long parallel preheat passages
-Permit redressing of nozzle without affecting performance

ANM (Acetylene) Nozzle for NM 250 / NM 400

NOZZLE (inch)	PLATE THICKNESS (mm)
1/32	6
3/64	12
1/16	25,50,75
5/64	100
3/32	150
1/8	200,250,300



AGNM (Gouging) Nozzle for NM 400



NOZZLE width (mm)	Maximum Groove Width (mm)
13	8
19	11
25	12

PNM (LPG) Nozzle for NM 250 / NM 400

NOZZLE (inch)	PLATE THICKNESS (mm)
1/32	6
3/64	12
1/16	25,50,75
5/64	100
3/32	150
1/8	250



Cutting Nozzles

NOZZLE

A-Type (Acetylene) Nozzle for Cutogen 5

NOZZLE SIZE	PLATE THICKNESS (mm)
A8 (1/32")	6
A12 (3/64z")	12
A16 (1/16")	50,75,100
A20 (5/64")	150
A24 (3/32")	200
A28 (7/64")	250
A32 (1/8")	300



P-Type (LPG) Nozzle for Cutogen 5



NOZZLE SIZE	PLATE THICKNESS (mm)
P8 (1/32")	6
P12 (3/64")	12
P16 (1/16")	25,50,75
P20 (5/64")	100
P24 (3/32")	150
P28 (7/64")	200
P32 (1/8")	250

Operating Data for Mild Steel cutting with ESAB Cutting Blowpipe (Injector & Nozzle Mix type) comply with ISI & ISO Standards

Material Thickness		Nozzle size		Gas pressure Oxygen		Gas Pressure Fuel			
mm	inch			bar	psi	Acetyline		Propane	
						bar	psi	bar	psi
6.0	1/4"	1/32"	(3-6)	1.5	20	0.15	2.0	0.20	3.0
12.0	1/2"	3/64"	(5-12)	2.0	30	0.15	2.0	0.20	3.0
25.0	1"	1/16"	(10-75)	2.5	35	0.15	2.0	0.30	4.0
50.0	2"	1/16"	(10-75)	3.0	45	0.15	2.0	0.30	4.0
75.0	3"	1/16"	(10-75)	3.5	50	0.15	2.0	0.30	4.0
100.0	4"	5/64"	(70-100)	4.0	60	0.20	3.0	0.35	5.0
150.0	6"	3/32"	(90-150)	4.0	60	0.20	3.0	0.40	6.0
200.0	8"	7/64"	(140-200)	4.0	60	0.20	3.0	0.40	6.0
250.0	10"	1/8"	(190-250)	4.0	60	0.20	3.0	0.45	6.5
300.0	12"	1/8"	(250-300)	4.5	65	0.20	3.0	0.50	7.0

Welding Tips

TIPS

- Tips are manufactured from copper tubes which have swaged interior
 - Gas passages are mirror smooth with internal angles rounded, non-turbulent
 - More efficient gas flow.
- Wide range of Tips of different sizes
 - Optimum consumption of gas with use of correct size of tips.

Saffire 2 HP (swaged)

TIP SIZE (mm)	PLATE THICKNESS (mm)
1	0.9
2	1.2
3	2.0
6	3.0
7	3.2
10	4.0
13	5.0
20	8.0
30	8.5
35	10.0
45	13.0
55	16.0
70	20.0
90	25.0



Welding Tips



TIPS

Light weight - LWHP (swaged)

TIP SIZE (mm)	PLATE THICKNESS (mm)
2	1.9
3	2.0
6	3.0
10	4.0
18	5.0
25	6.5
13	8.2



Model 'O' Tips

TIP SIZE (mm)	PLATE THICKNESS (mm)
1	2-3
2	4.5
3	6-8
4	10-20
5	18-30



Operating Data for Mild Steel welding with ESAB Welding Blowpipe (High pressure & Low pressure type) comply with ISI & ISO Standards

Material Thickness		Tips size	Gas pressure Oxygen		Gas Pressure Fuel Acetyline	
mm	inch		bar	psi	bar	psi
1.2	3/64"	2.0	1.5	20	0.14	2.0
2.0	5/64"	3.0	1.5	20	0.14	2.0
3.0	1/8"	6.0	2.5	35	0.21	3.0
5.0	3/16"	13.0	2.5	35	0.21	3.0
8.0	5/16"	20.0	3.0	45	0.28	4.0
10.0	3/8"	30.0	3.0	45	0.28	4.0
12.0	13/32"	35.0	3.5	50	0.42	6.0
14.0	9/16"	45.0	3.5	50	0.42	6.0
16.0	5/8"	55.0	4.0	60	0.56	8.0
20.0	13/16"	70.0	4.0	60	0.70	10.0
25.0	1"	90.0	4.5	65	0.70	10.0

Accessories

Gas Saver for Welding Blowpipes

Where welding operations are intermittent and the operator needs to frequently adjust the work place, considerable Gas and as well as Time (in re-setting the torch) is wasted.

Considerable saving in both gas and re-set up time can be achieved by fitting a Gas Saver upstream of the blowpipe. The torch can be hung on an arm which activates two valves, which cuts-off the gas supplies. When the operator is ready to re-commence the welding, he removes the torch from an arm which releases the gas supply. He is then able to re-light the flame from a pilot flame on the unit without operating the blowpipe control valves.

Gas Saver is a very effective accessory that will quickly pay in Gas and labour savings.

Design Features

- Bunsen type pilot flame evenly at all pressures without soot.
- Pilot flame can be adjusted or turned off by separate valve.
- The Acetylene valve is always closed first to eliminate soot in the air or the blowpipe.
- Reliable valves.
- No leaks glands



Accessories

Welding & Cutting Hose

Technical Details

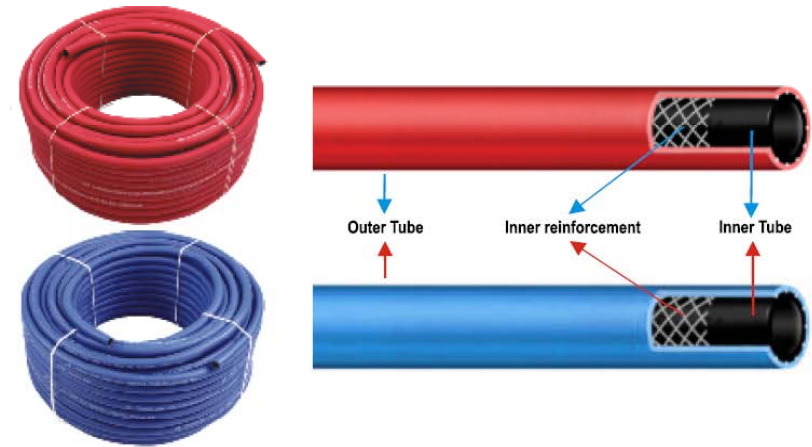
- **Core** : Black Synthetic Elastomer
- **Reinforcement** : High Tensile Polyester Yarn
- **Cover** : Hiper Flame Retardant Thermo-compound
- **Temperature Range** : -40°C to +55°C
- **Standard** : Manufactured according to IS:447

Features

- Highly Flexible
- Excellent Electrical Resistant
- Light in Weight
- High Abrasion Resistant
- Standard 50 mtr. length supplied in a box

Application

- Specially designed for Oxy-acetylene welding and cutting equipment



Specifications

Description	Dash Size	DN	Hose I.D. (Nom.)		Hose O.D. (Nom.)		Working Pressure		Min. Burst Pressure		Min. Bend Radius	
			(in.)	(mm)	(in.)	(mm)	(psi)	(bar)	(psi)	(bar)	(mm)	(in.)
Dura Hose	-3	5	3/16	5.0	0.43	11	220	15	800	55	18	0.71
Dura Hose	-5	8	5/16	8.0	0.63	16.0	220	15	800	55	25	1.00
Dura Hose	-6	10	3/8	10.0	0.71	18.0	220	15	800	55	38	1.52

CERTIFICATE



Management system as per
DIN EN ISO 9001 : 2000

In accordance with TÜV CERT procedures, it is hereby certified that

ESAB INDIA LTD. – EQUIPMENT FACTORY
P-41, Taratala Road,
Kolkata – 700 088, India

applies a quality system in line with the above standard for the following scope

**Design, Manufacture and Supply of GAS, ARC Welding / Cutting
Equipment**

Certificate Registration No. **44 100 084004-E3**
Audit Report No. **2.5-3777/2007**

Valid until **07.01.2011**

S.K. Kulkarni

TÜV CERT Certification Body
at TÜV NORD CERT GmbH

Mumbai, **08.01.2008**

This certification was conducted in accordance with the TÜV CERT auditing and certification procedures and is subject to regular surveillance audits.
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DET NORSKE VERITAS MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 2006-SKM-AE-1093 / 2008-SKM-AHSO-143

This is to certify that

ESAB GROUP

WORLDWIDE

For specific sites see Appendix

has been found to conform to the Management System Standards:

ISO 14001:2004, OHSAS 18001:2007

This Certificate is valid for:

Development, design, production, sales and services of welding and cutting products

Initial Certification date:

2008-01-11 (OHSAS)

2006-01-22 (14001)

This Certificate is valid until:

2011-01-31 (OHSAS)

2012-01-31 (14001)

Place and date:

Stockholm, 2009-02-09

for the Accredited Unit:
DNV CERTIFICATION AB,
SWEDEN



*The audit has been performed
under the supervision of:*

Hans Hallberg / Mats Nilsson
Lead Auditor

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.

Jimmy Nilsson

Jimmy Nilsson
Management Representative

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World leader in welding and cutting technology and systems

ESAB operates at the forefront of welding and cutting technology. Over one hundred years of continuous improvement in products and processes enables us to meet the challenges of technological advance in every sector in which ESAB operates.



Quality and environment standards

Quality and the environment are two key areas of focus. ESAB is one of few international companies to have achieved the new ISO 14001 standard

in Environmental Management Systems across all our global manufacturing facilities.

At ESAB, quality is an ongoing process that is at the heart of all our production processes and facilities worldwide. Multinational manufacturing, local representation and an international network of independent distributors brings the benefits of ESAB quality and unrivalled expertise in materials and processes within reach of all our customers, wherever they are located.

ESAB Sales and Support Offices worldwide



* Includes manufacturing facilities of ESAB North America. A wholly owned subsidiary of Anderson Group Inc.

Global solutions for local customers – everywhere.

ESAB reserves the right to alter specifications without prior notice.



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