



LIMITED

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SUGGESTIONS FOR TECHNICAL AND PURCHASE DEPARTMENTS

A quick choice of the tools suggested on board for both new ships and the ones already in service

DRY CARGO BOATS:

DECK DEPARTMENT (not equipped with air line on the deck)

- electric chipping hammer
- electric deck scaling machine for large surfaces
- electric derrick for provisions and stores from 500 to 2.000 kgs
- electric fans – several types

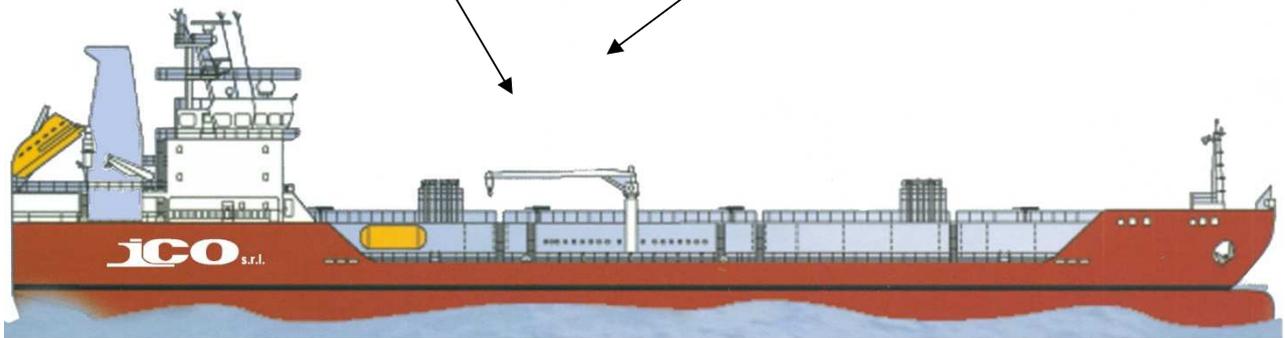
DECK DEPARTMENT (equipped with air line on deck)

- pneumatic 1,3,5-piston hammer
- pneumatic deck scaling machine for large surfaces
- pneumatic angle, vertical, horizontal grinding machine
- pneumatic sump pump turbine type
- pneumatic diaphragm pump – several types
- pneumatic sandblasting machine
- pneumatic needle chisel
- pneumatic chisel
- pneumatic derrick
- pneumatic fans – several types
- high pressure cleaning device

TANKER SHIP

DECK DEPARTMENT

- pneumatic 1,3,5-piston hammer
- pneumatic deck scaling machine for large surfaces
- pneumatic mucking winch from 80 to 300 kgs
- pneumatic spark-proof lamp
- pneumatic sandblasting machine
- pneumatic sump pump - turbine type
- pneumatic angle, vertical, horizontal grinding machine
- pneumatic derrick
- garbage compacting press
- fans – several types
- high pressure cleaning device



ENGINE DEPARTMENT

- pneumatic transfer pump
- pneumatic diaphragm pump – several types
- pneumatic pipe-cleaning equipment
- pneumatic bolt driver for different kinds of nuts and bolts
- pneumatic angle, vertical, horizontal grinding machine
- pneumatic drill
- garbage compacting press

ENGINE DEPARTMENT

- pneumatic transfer pump
- pneumatic diaphragm pump – several types
- pneumatic pipe-cleaning equipment
- pneumatic bolt driver for different kinds of nuts and bolts
- pneumatic angle, vertical, horizontal grinding machine
- pneumatic drill
- pneumatic universal chisel
- garbage compacting press

SCALING PISTON HAMMER

These hammers can be equipped with pistons in hardened steel, sparkproof bronze or tungsten carbide.

1 PISTON HAMMER
ISSA CODE 55.101.01
I.CO. CODE 800-0 X2 NEW TYPE



3 PISTON HAMMER
ISSA CODE 55.101.02
I.CO. CODE 797-0 NEW TYPE



5 PISTON HAMMER
ISSA CODE 55.101.03
I.CO. CODE 819-0



5 PISTON DECK HAMMER
ISSA CODE 55.101.04
I.CO. CODE 16100-0



7 PISTON DECK HAMMER
ISSA CODE 55.101.05
I.CO. CODE 16000-000



ISSA CODE	55.101.01	55.101.02	55.101.03	55.101.04	55.101.05
ICO CODE	800-0 X2 N.T.	797-0 N.T.	819-0	16100-0	16000-000
Pistons	N. 1	3	5	5	7
Head Width	mm 96	98	93	100	215
Scaling Width	mm 25	80	95	95	170
Strikes per min	N. 5700	7000	6500	6500	2000
Feeding pressure	Bar 5	5	5	5	6-8
Air consumption	l/min 350	700	900	900	1400
Air inlet connector	Diam ½"	½"	½"	½"	¾"
Air hose	Diam 13mm	13mm	13mm	13mm	19mm
Weight	Kg 2,5	3,7	3,8	12,0	48,0

FOR 1 PISTON HAMMER
ISSA CODE 55.101.10
I.CO. CODE 800-2 N.T.



FOR 3 PISTON HAMMER
ISSA CODE 55.101.11
I.CO. CODE 797-2 WIDIA



FOR 5 PISTON HAMMER
ISSA CODE 55.101.12
I.CO. CODE 819-2



FOR 7 PISTON HAMMER
ISSA CODE 55.101.13
I.CO. CODE 16000-39



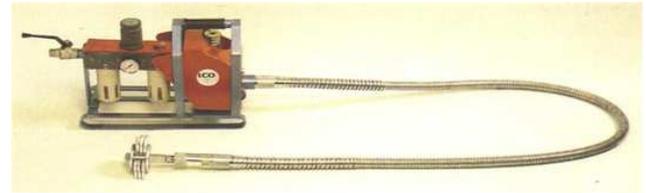
CHIPPING HAMMER "ICOFLEX"

The main feature of this machine is scraping rust and paints from any metal surface. It can also be transformed into a versatile tool able to perforate, cut and grind. There are many kinds of tools, according to the type of work, all interchangeable on the flexible shaft.

ELECTRIC type CHIPPING HAMMER
I.CO. CODE 2240-S1 / 2100-S1 / 2240-TRF-S1



PNEUMATIC CHIPPING HAMMER
I.CO. CODE 12550



TYPE	PNEUMATIC	ELECTRIC AC Singlephase	ELECTRIC AC Threephase	ELECTRIC DC	Technical Features:
ISSA CODE	55.100.01	55.100.02	55.100.03	55.100.04	COMPLETE CHIPPING HAMMER - TYPE 'S1' EITHER ELECTRIC OR PNEUMATIC - IS COMPOSED OF: - N.1 ELECTRIC/PNEUMATIC MOTOR - N.1 FLEXIBLE SHAFT - N.1 THREE-CUTTER CHIPPING HEAD - N.1 NINE-HAMMER CHIPPING HEAD - N.6 PINS FOR ABOVE - N.1 SAFETY GUARD NOTE: Different types of tools, adaptors for flexible shaft and spare parts for JAPANESE, ENGLISH, GERMAN and AMERI CAN chipping hammers are available.
ICO CODE	12550	2240-S1	2240-TRF-S1	2100-S1	
Power [hp]	1,5	1,0	1,0	0,8	
Speed [g/min]	3000	2800	2800	2700	
Voltage [V]	-	110/220	24/48/110/220/380/440	110/220	
Feeding Pressure [Bar]	7	-	-	-	
Frequency [Hz]	-	50/60	50/60	-	
Weight [Kg]	28	15	14	23	

FLEXIBLE SHAFT AND SPARE PARTS

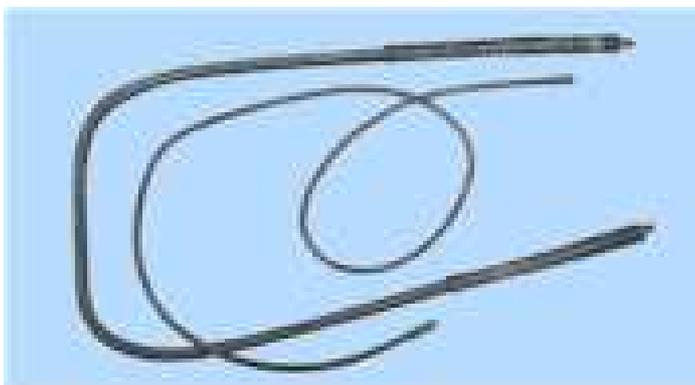
Flexible shaft made of either galvanized steel or rubber coated sheath, standard length Mt. 2,5 - tool connection 5/8" W - special lengths and connections on request.

COMPLETE FLEXIBLE SHAFT:

ISSA CODE I.CO. CODE
 55.100.06 2220-ZN WITH GALVANIZED STEEL SHEATHING
 55.100.07 2220-SG WITH RUBBER SHEATHING

HANDLE SPINDLE
 I.CO. CODE 2220-3
 ISSA CODE 55.100.11

HANDLE
 I.CO. CODE 2220MN
 ISSA CODE 55.100.10



CHIPPING HAMMER "ICOFLEX" - ACCESSORIES

SIX HAMMER HEAD
ISSA CODE 55.100.20
I.CO. CODE 2000-5M



NINE HAMMER HEAD
ISSA CODE 55.100.21
I.CO. CODE 2000-2M



TWELVE HAMMER HEAD
ISSA CODE 55.100.22
I.CO. CODE 2000-1M



THREE CUTTERS HEAD
ISSA CODE 55.100.23
I.CO. CODE 2000-5F



SIX CUTTERS HEAD
ISSA CODE 55.100.24
I.CO. CODE 2000-4F



I.CO. STEEL HAMMER
ISSA CODE 55.100.47
I.CO. CODE 2000-19



3 HOLE FLANGE
ISSA CODE 55.100.44
I.CO. CODE 2000-23



6 HOLE FLANGE
ISSA CODE 55.100.45
I.CO. CODE 2000-28



I.CO. STEEL CUTTER
ISSA CODE 55.100.46
I.CO. CODE 2000-24



PIVOT FOR HAMMERS
ISSA CODE 55.100.50
I.CO. CODE 2000-26



PIVOT FOR CUTTERS
ISSA CODE 55.100.51
I.CO. CODE 2000-22



**SPINDLE FOR WIRE BRUSH AND
CUP WIRE BRUSH**
ISSA CODE 55.100.55
I.CO. CODE 2000-29-C / T



SPINDLE FOR THREE CUTTER HEAD
ISSA CODE 55.100.52
I.CO. CODE 2000-21



SPINDLE FOR NINE HAMMER HEAD
ISSA CODE 55.100.53
I.CO. CODE 2000-25



**DOUBLE SPINDLE CENTRE PIN FOR 12 HAMMER &
DOUBLE WHEEL**
ISSA CODE 55.100.54
I.CO. CODE 2000-27



CHIPPING HAMMER "ICOFLEX" - ACCESSORIES

DOUBLE WIRE BRUSH

ISSA CODE 55.100.31
ISSA CODE 55.100.32
I.CO. CODE 2000-62R or S
2000-6/2R: TWISTED WIRE or
2000-6/2S: SINGLE WIRE



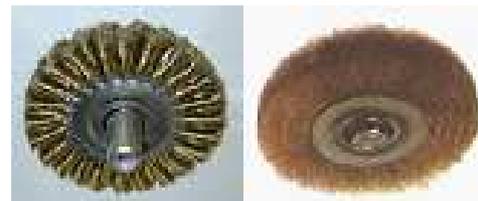
WIRE CUP BRUSH

ISSA CODE 55.100.33
ISSA CODE 55.100.34
I.CO. CODE 2000-7R or S
2000-7R: TWISTED WIRE or
2000-7S: SINGLE WIRE



WIRE WHEEL BRUSH

ISSA CODE 55.100.26 (R)
ISSA CODE 55.100.30 (S)
I.CO. CODE 2000-6R or S
2000-6R: TWISTED WIRE or
2000-6S: SINGLE WIRE



EMERY WHEEL

ISSA CODE 55.100.41
I.CO. CODE 2000-9



CHUCK

ISSA CODE 55.100.40
I.CO. CODE 2000-8



SAFETY GUARD

ISSA CODE 55.100.43
I.CO. CODE 2000-11



CIRCULAR SAW

ISSA CODE 55.100.42
I.CO. CODE 2000-10



ANTI VIBRATION GLOVES

Maximum protection against vibrations
EN 10819 certified

AVG



SAFETY FOOTWEAR
AT THE LAST PAGE

SPARKPROOF TOOLS

I.CO. Spark-Proof Quality Tools are specially designed for remarkably safe operation in areas subject to explosion hazards, where any liquids of flammable gases are available, or for any applications that require perfectly antimagnetic, highly corrosion resistant tools.

These tools prevent any spark from being produced while using the tool : because they are made from special Copper-Beryllium (Cu-Be) alloy, spark-proof properties harmonize with mechanical resistance. This special alloy, which has been extended to the whole new range of I.CO. Spark-Proof Quality Tools, means the best possible choice for such application.



RUST REMOVAL MACHINES

This machine is designed for efficient removal of rust, paint and old covering from large surfaces. It's easy to control by the operator, thus improving quality and quantity of work. According to the need, there are many different types of completely interchangeable tools that can be applied to the standard drum. It's also possible to apply steel-wire, brass or nylon brushes etc.

ELECTRIC
ISSA CODE 55.102.03
I.CO. CODE 11500-0-200MM or 0-300MM

PNEUMATIC
ISSA CODE 55.102.02
I.CO. CODE 11400-0-200 or 0-300MM



TYPE	ISSA CODE	ICO CODE	ISSA CODE	ICO CODE
Pneumatic	55.102.02	11400-0-200	55.102.05	11400-0-300
Electric	55.102.03	11500-0-200M	55.102.06	11500-0-300
CHARACTERISTICS:				
Scaling width	mm	200	300	
min. drum/wall distance	mm	45	45	
Efficiency	sqm/h	70	100	
drum speed	rpm	1700	1700	
connection for dust suction diam.	mm	40	40	
CHARACTERISTICS OF THE MOTOR:				
- PNEUMATIC MOTOR				
Air feeding press.	Bar	6	6	
Consumption abt 120cbm/hr	HP	5	5	
- ELECTRIC MOTOR KW 2.2				
A.C. - Single phase or threephase—Hz 50/60				
V. 110/220/380/440 *	HP	3	3	
- Pneumatic	Kg	65	70	
- Electric	Kg	43	48	
Overall dimensions	mm	355 x 1200 h.950	455 x 1200 h.950	
* different voltages on request.				

RUST REMOVAL MACHINES - ACCESSORIES

HOW TO ORDER:

ISSA CODE	I.CO. CODE	
55.102.02	11400-0-200	PNEUMATIC VERSION 200 mm
55.102.05	11400-0-300	PNEUMATIC VERSION 300 mm
55.102.03	11500-0-200M	ELECTRIC VERSION 200 mm (specify power supply)
55.102.06	11500-0-300M	ELECTRIC VERSION 300 mm (specify power supply)

SPARE PARTS FOR LARGE SURFACE RUST REMOVER

STAR CUTTER DRUM

ISSA CODE	I.CO. CODE	
55.102.10	11700-0-S200	200mm DRUM
55.102.11	11750-0-S300	300mm DRUM



STAR CUTTER



TUNGSTEN CARBIDE DRUM

ISSA CODE	I.CO. CODE	
55.102.13	11700-0-W200	200mm DRUM
55.102.14	11750-0-W300	300mm DRUM



T.CARBIDE CUTTER



I.CO. CODE DRUM WITH CROP ENDS OF CHAIN

11700-0-C-200	200 mm DRUM
11750-0-C-300	300 mm DRUM



ISSA CODE I.CO. CODE STEEL WIRE BRUSH

55.102.20	11708-2-200	200mm BRUSH - TWISTED WIRE
55.102.21	11708-3-200	200mm BRUSH - SIMPLE WIRE
55.102.22	11758-2-300	300mm BRUSH - TWISTED WIRE
55.102.23	11758-3-300	300mm BRUSH - SIMPLE WIRE



Item n°	Cutter or brush type	Application
11700-7	Star cutters 3/32" – 2 mm	Removal of old coatings, paints, oil and contaminations on factory floors, and so on, cleaning of ship decks and for ferry boat garages.
11700-9	Hexagonal tungsten carbide cutters ¼" (6 mm)	Same as above with possibility for roughening of concrete and asphalt, removal of toothed layers and old coatings. Extremely wear-resistant, designed for heavy duty operations.
11700-11	Special hexagonal tungsten carbide cutters 1" (22 mm)	For removal of thin rust layers, thermoplastic and cold plastic markings on asphalt and concrete, for milling - off floor layers based on thermoplastic.
11700-12 (*)	Crops end of chain with spacers	Removal of rust from uneven and bumpy surfaces, gross rust layers.
11700-13 (*)	Steel hammers mm.7	Removal of thick layers of rust on irregular surfaces.
11708-2-200 11758-2-300	Twisted wire brushes	Removal of paint and rust deposits on sheets, cleaning and smoothing of surfaces after cutter treatment.
11708-3-200 11758-3-300	Single wire brushes	Removal of paint and rust deposits on sheets, polishing.

RUST REMOVAL MACHINES - ACCESSORIES

(* Use the centering bushes

These are indicative suggestions : the best choice is done with testes.

SPECIFICATION OF SPARE PARTS



ISSA CODE	ICO CODE	PART NAME
55.102.30	11700-1	Drum body 200 mm
55.102.31	11750-1	Drum body 300 mm
55.102.32	11700-2	Flange
55.102.33	11700-3	Cutter shaft (for 200 mm)
55.102.34	11750-3	Cutter shaft (for 300 mm)
55.102.35	11700-4	Screw for flange
55.102.36	11700-5	Elastic washer
55.102.37	11700-6	Washer
55.102.38	11700-7	Star cutter
55.102.40	11700-9	Tungsten carbide cutter
55.102.41	11700-11	Tungsten carbide widia cutter (on request)
55.102.42	11700-12	Crops end of chain (on request)
55.102.43	11700-13	Steel hammer

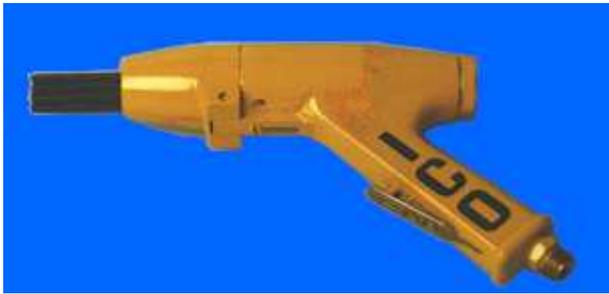


DESCRIPTION	ISSA CODE	ICO CODE	Number for drum 200 mm		Number for drum 300 mm	
			cutters	washers	cutters	washers
Star cutters	55.102.38	11700-7	280	24	450	32
Carbide cutters	55.102.40	11700-9	68	80	108	148
Steel cutters	55.100.46	2000-24	38	10	60	32
Ring chains in alloy steel	55.102.42	11700-12	24	148	//	//
Hammers	55.102.43	11120-13	56	//	104	//
Bushes for hammers		11700-13B	//	12	//	16

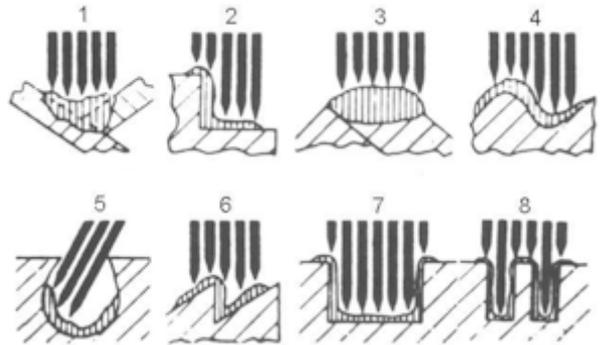
PNEUMATIC RATTLING NEEDLE CHISEL

Equipment suitable for chipping rust, old paints, welding, casting scales and various foulings from irregular, angular or bent surfaces. Each needle is independent from the other, thus permitting a perfect adherence to all irregular surfaces, with guarantee of very accurate cleaning. Due to the possibility of using spark proof needles, the machine is suitable for use in environments with risk of explosion.

PNEUMATIC RATTLING NEEDLE CHISEL
ICO CODE 12200-0 Type 'A'/24



VARIOUS KINDS OF APPLICATION OF THE PNEUMATIC NEEDLE CHISEL, FOR SCALING ON IRREGULAR SURFACES.

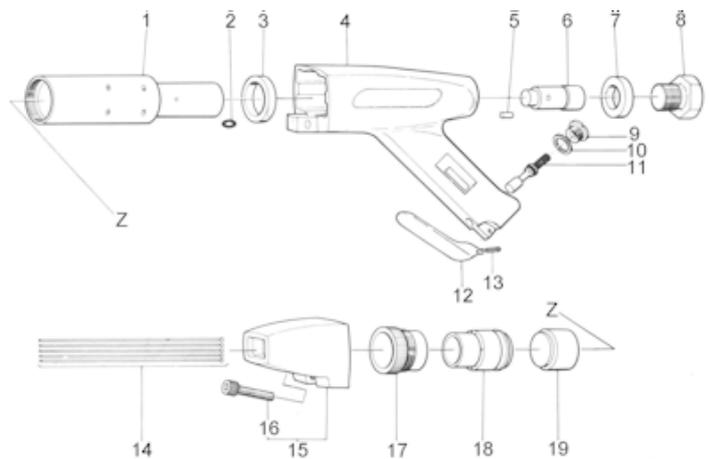


ICO CODE		12200-23E	12200-28E	12200-L
Handle type		Pistol	Pistol	Straight
Blows per minute	Rpm	3500	3500	4600
Air consumption	m ³ /min	0,22	0,25	0,25
Air pressure	Bar	6	6	6
Connection	Inch	3/8" gas	3/8" gas	1/4" gas
N° of Needles	mm	Diam 2 x 53 pcs Diam 3 x 23 pcs	Diam 2 x 66 pcs Diam 3 x 28 pcs Diam 4 x 14 pcs	Diam 3 x 19 pcs
Needles Length	mm	180	180	180
Overall Length	mm	348	360	457
Weight	Kg	2,70	3,50	2,80

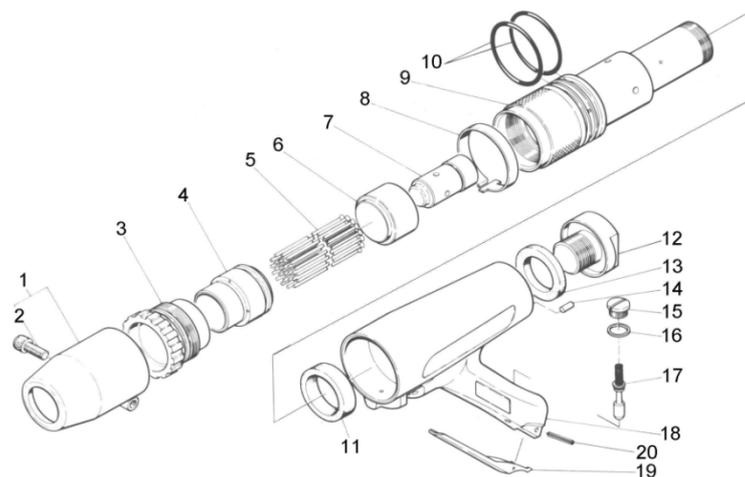
TECHNICAL DIAGRAM WITH SPECIFICATION OF SPARE PARTS:

ICO CODE 12200-23E "JEX 24"

ISSA CODE	ICO CODE	N°	Part Name	Q'ty
55.105.24	12200-48	1	Cylinder	1
	12200-43	2	O Ring KS-9	1
55.105.26	12200-50	3	Front Washer	1
55.105.01	12200-01	4	Housing Sub Ass'y	1 set
55.105.13	12200-23	5	Cylinder Lock Pin	1
55.105.14	12200-24	6	Piston	1
55.105.12	12200-22	7	Rear Washer	1
55.105.08	12200-13	8	Rear Plug Ass'y	1
55.105.11	12200-19	9	Valve Cap	1
55.105.05	12200-4B	10	Valve Packing	1
55.105.04 e .10	12200-4 e 18	11	Throttle Valve Ass'y	1 set
55.105.02	12200-2	12	Throttle Lever	1
55.105.06	12200-6	13	Spring Pin 3x 20	1
55.105.21	12200-41	14	Needle diam 3 x 180 mm	23
55.105.25	12200-49	15	Needle Guide Ass'y	1 set
55.105.19	12200-39	16	Hexagon Socket Head Bolt 8 x 35	1
	12200-51	17	Lock Ring	1
55.105.16 e .17	12200-29 e 31	18	Needle Supporter diam 3	1
55.105.15	12200-28	19	Throttle Anvil	1



ICO CODE 12200-28E "JEX 28"		
N°	Part Name	Q'ty
1	Round Needle Guide Ass'y	1 set
2	Hexagon Socket Head Bolt 8 x 25	1
3	Stop Ring	1
4	Needle Supporter diam 3	1
5	Needle diam 3 x 180 mm	28
6	Throttle Anvil	1
7	Piston	1
8	Safety Band	1
9	Cylinder	1
10	O Ring W-4	2
11	Front Washer	1
12	Rear Bolt Ass'y	1 set
13	Rear Washer	1
14	Cylinder Lock Pin	1
15	Valve Cap	1
16	Valve Packing	1
17	Throttle Valve Ass'y	1 set
18	Housing Sub Ass'y	1 set
19	Throttle Lever	1
20	Spring Pin 3 x 20	1
	Hex. Wrench Key	1
	Needle diam 4 x 180 mm	14
	Reducer M16 x NPT 3/8	1
	Needle Supporter diam 4	1
	Hose Nipple NPT 3/8 x 3/8	1
	Needle diam 2 x 180 mm	66
	Needle Supporter diam 2	1



ELECTRIC NEEDLE CHISEL



Technical features:

- power source (single phase) 220 V. / 240 V. – 50/60 Hz.
- rated power consumption: 200 W.
- rated time: 30 min
- stroke speed: 3,000 min / 1'
- needle: 32 (2x 180 mm) or 15 (3x180 mm) + n. 30 needles 3 x 180 mm + n. 1 needle holder for needles diam 2
- mass (weight): 4.5 kg
- sound pressure level: no load 84.6 dB(A) / load 84.9 dB(A)
- sound power level: no load 95.6 dB(A) / load 95.9 dB(A)
- vibration emission value: motor 32.7 m/s² – subhandle 25.2 m/s²

UNIVERSAL PNEUMATIC CHISEL AND CHIPPER

Powerful hammers for general chipping and calking weld line, paint and rust removing in limited space. Compact chippers in light weight pistol handle or straight handle, supplied with flat chisel.

ISSA CODE 55.110.02
ICO CODE 850-00

ISSA CODE
ICO CODE 850-L



ISSA CODE		55.110.02	55.110.03
ICO CODE		850-00	850-L
Blows per min	N°	2000	2100
Piston Stroke	mm	30	89
Piston Dimension	mm	diam. 24,5x69,5	diam. 19x60
Hose Connection	Inch	½" gas	½" gas
Air Hose diam	mm	13	13
Air Pressure	Bar	6	6
Air Consumption	lt/min	300	200
Overall Legth	mm	400	350
Weight	Kg	2,5	2,0
Spring retainer	mm	diam 14	diam 10

INTERCHANGEABLE TOOLS:

ISSA CODE	ICO CODE	Drawing	Description & Use
55.110.10	850-26		Normal chisel mm. 50: suitable to eliminate foundry & welding burrs, delev edges & light jobs.
55.110.11	850-27A		Sheet shearing chisel: suitable for cutting rolled sheets mm. 1,5 - 2 thick.
55.110.12	850-27B		Triangle cross cut chisel: suitable to eliminate fusion & welding blowholes & to prepare triangle grooves for welding.
55.110.13	850-27C		Mason's point: suitable for drilling concrete or brick walls.
55.110.14	850-27E		Nail punch: suitable to punch flat head nails against the plate to obtain better tightness.
55.110.15	850-27D		Rammer: suitable to caulk plates.
55.110.16	850-27F		Wails: suitable for rivetting

Special tools will be made on request.

ICO PNEUMATIC GRINDING AND BRUSHING MACHINE Mod. 4" , 7" and 9"

The pneumatic grinding/brushing machine is suitable for sanding, rust removing, rough grinding and cutting. A wide range of models and tools is available for the various needs and applications. It's particularly suitable for heavy duty work in difficult conditions and can be equipped with grinding wheels, brushes, abrasive and cutting disks, polishing wheels and flexible fiber-pads for application of sandpaper, sand-cloth, felt polishing skin, etc.

ISSA CODE 55.118.01
I.CO. CODE 3602-00-E-4
VERTICAL TYOE - MOD. 4"



ISSA CODE 55.118.02
I.CO. CODE 3602-00-E-7
VERTICAL TYPE - MOD. 7"



ISSA CODE 55.118.03
I.CO. CODE 3602-00-E-9
VERTICAL TYPE - MOD. 9"



ICO CODE		3602-00-E-4	3602-00-E-7	3602-00-E-9
Model		4"	7"	9"
Disk capacity	mm	22x125	22x180	230
Speed	giri/min	12.000	7.000	6.000
Recommended air pressure	bar	6,2	6,2	6,2
Air connection		3/8"	1/2"	1/2"
Inner diameter air tube	mm	10	13	13
Average air consumption	lt/sec	9	18	33,3
Weight	Kg	1,8	3,5	5,1
Lenght	mm	225	338	185
Sonorous pressure (PNEUOP8N-1)	DbA	84	97,8	95
Vibrations (ISO 8662-1)	m/sec ²	2,5	3,56	8,7



PNEUMATIC GRINDING AND BRUSHING MACHINE - HORIZONTAL TYPE

Suitable for grinding and brushing using grinding stones and cylindrical brushes with overall max. diam mm 150.

ISSA CODE 55.119.01
ICO CODE 200-0



ISSA CODE	55.119.01	
I.CO. CODE	200-0	
Version	BRUSH/ GRINDER	
Wheel max diam	mm	100/150
Speed	RPM	5000
Tool spindle	mm	Diam. 12 / 16
Hose connection	Inch	½"
Normal working pressure	Atm	6 / 7
Overall length	mm	510
Weight	Kg	3,5

HIGH PRESSURE CLEANING SYSTEMS

A complete range of multipurpose high quality systems. Hot and Cold water system available together with a complete range of accessories.

Power	HJ24	HJ22	HJ53	HJ100
Water System	COLD	HOT	COLD	COLD
Motor	3-phase	3-phase	3-phase	3-phase
Voltage	400 V.	400 V.	400 V.	400 V.
Power Consumption	9,0 Kw.	7,0 Kw.	23,0 Kw.	30 Kw.
Capacity	1.400 l/h	950 l/h	1.500 l/h	1.000 l/m
Sizes L x W x H	700x600x720	1020x620x850	960x780x860	1275x580x1090
Working Pressure	230 BAR	210 BAR	500 BAR	1.000 BAR
Weight	95	150	260	450

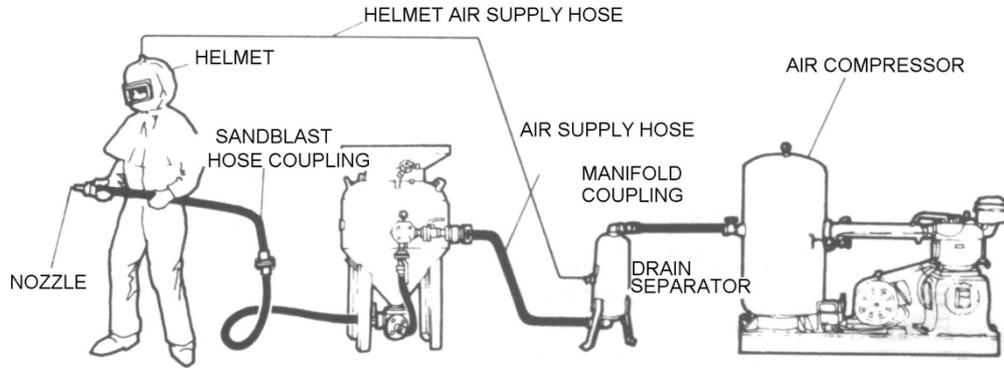


PNEUMATIC SANDBLASTER

Suitable for removal of rust, dirt, corrosion, old paint etc. from metal, plastic, concrete, stone, brick and glass surfaces. Ideal for efficient and continuous work - cleaning any hard surface quickly and preparing it perfectly for repainting without further preparation.

Available in a wide variety of models.

Versions listed below are standard, with usual accessories. Special equipments on request. Air compressors are to be ordered separately.



“SUPERBABY” PORTABLE TYPE
ISSA CODE 55.116.01
ICO CODE 300-00



ISSA CODE 55.117.01
ICO CODE 300-PA



Special spray gun designed for neutralising the dust and the sparks produced by sanding operation.

The equipment is supplied with standard operative and protective accessories.

Special accessories on request.

60 LT. SANDBLASTER
ISSA CODE 55.116.02
ICO CODE 300-60



Technical Features

ISSA CODE		55.116.01	55.116.02	55.116.03	55.116.04	55.116.05	55.116.06
ICO CODE		300-00	300-60	300-120	300-200	300-220	300-280
Capacity	lt.	25	60	120	200	220	280
Rated pressure	bar	6	8	8	8	12	12
Overall height	mm	850	980	1220	1380	1500	1600
Overall diam	mm	300	450	510	600	600	640
Weight	Kg	46	72	100	130	180	215

Specifications of air consumption and efficiency:

Diameter of nozzle	mm	5-6	6-8	6-12
Air consumption	CBM/min	1,0-2,4	2,4-5,0	2,4-12,0
Working surface	SQM/hr	6,5-10	10-20	10-35

DRILLING MACHINE

Suitable for use on light and medium duty drilling. An air regulator located on the grip handle controls the power, adjusting it to different drilling surfaces.

Technical Features:

ISSA CODE				
ICO CODE	AR-X10	AR-X13	AR-X16	AR-X22
bit capacity	mm 10	13	16	22
Speed no-load	rpm 2000	1500	900	600
Recommended air pressure	Kgf/cm ² 6,0	6,0	6,0	6,0
Air connection	3/8"	3/8"	1/2"	3/4"
Internal air pipe diam	mm 10	10	13	19
Air Consumption	m ³ /min 0,55	0,65	1,1	1,1
Power	Kw 0,44	0,53	0,96	0,96
Length	mm 156	187	433	433
Weight	Kg 1,1	2,6	5,5	5,5

1/2" Reversible Air Drill
with rack chuck of 13 mm



PNEUMATIC IMPACT WRENCH / PNEUMATIC BOLT DRIVER

Designed for fast and efficient removal or fastening of nuts. Reversible action. Powerful, solid, compact and extremely durable.

ISSA CODE 55.058.
I.CO. CODE A4



ISSA CODE 55.058.
I.CO. CODE A5



ISSA CODE 55.058.17
I.CO. CODE A6-1



I.CO. produces, as well as the indicated special Impact Wrenches for marine engine bolts, also the entire range of Pneumatic Impact Wrenches, with tightening torque from Kgm 20 to Kgm 2400 - with bush connections from 1/2" to 2 1/2".

Special pneumatic impact wrenches for marine engine bolts technical features:

ISSA CODE	55.059.01	55.058.13	55.058.	55.058.14	55.058.16	55.058.17	55.058.19
I.CO. CODE	A2	A3	A4	A5	A6-0	A6-1	A6-2
Bolt shank diam.	mm 10-16	12-22	16-28	20-36	27-45	30-80	50-110
Tightening torque	Kgm 20-40	50-120	102-230	150-330	540	210-815	550-2400
Square bush connect	1/2"	3/4"	1"	1"	1 1/2"	1 1/2" - 2"	2 1/2"
Air inlet	3/8"	1/2"	1/2"	1/2"	3/4"	3/4"	1"
handle type	gun	gun/ rear closed	gun/ rear closed	gun/ rear closed	rear closed	two handles	two handles
Weight	Kg 2,5	4,8	7,9	11	16	32	69

AIRLESS VARNISH SPRAYING—HIGH PRESSURE

The spray-paint system K30 is an airless piston pump with high delivery pneumatic motor which, generating high pressure, atomizes perfectly any kind of varnish with no air.

- Paint atomization adjustable from 0 to 240 bar
- Smoke lessness
- Direct suction from tank
- 5 Lt. overhead tank for small amounts
- Nozzle have dimension from 0.007" to 0.026"
- Hard metal valves with stainless seats and balls
- First-class packings
- Pneumatic motor with mechanical exchanger
- Low cost of maintenance and long duration
- Easy to use

ISSA CODE 45.141.00
ICO CODE 1000-R30-1

ISSA CODE	ICO CODE	Delivery	Ratio	Max Pressure	Feeding Pressure	Weight
45.141.00	1000-R30-1	6 Lt	30:1	240 bar	8 bar	24 Kg



The high pressure pneumatic pump permits to make use of points at low-thinner content reducing a lot the work place pollution and helping the drying of the points.

LONG SPRAY GUN

ISSA CODE	ICO CODE	Description
55.112.21	1002-L/1	Long spray gun mt. 1,0
55.112.22	1002-L/15	Long spray gun mt. 1,5
55.112.23	1002-L/20	Long spray gun mt. 2,0



PNEUMATIC DOUBLE DIAPHRAGM PUMP



The pneumatic diaphragm pump is flame proof, with adjustable capacity, equipped with exhaust mufflers and built-in lubricating device. Suitable for work: in suction, immersed, self-priming. It can be portable or fixed. It does not require auxiliary components. Resistant and reliable for heavy duty work.

It pumps liquids with high percentage of solid particles in suspension and is suitable for all kinds of products, such as oil, chemicals, dirty water, etc. The pump has a very low maintenance cost thanks to its simple construction and few moving parts that can be easily detached and re-fitted.

The pump's parts in contact with the fluid can be in polypropylene, aluminium, cast iron or stainless steel; and the diaphragms can be made of Neoprene, Buna-N, Viton

Technical Features:

ISSA CODE		55.123.01	55.123.02	55.123.05	55.123.06
I.CO. CODE		12450-T2	12450-T4	12450-T8	12450-T15
Overall dimensions	mm	180x270x270h	300x 360x 460h	340x 400x 670h	460x 510x 820h
Weight	Kg	10	16	30	55
Head	mt.		65	65	65
Suction Lift Dry	Sec	18	22	20	20
Wet	Sec	25	27	25	25
Feeding	Atm	7	7	7	7
Standard diaphragms					
Air inlet	Diam.	¼"	⅜"	½"	½"
Liquid outlet	Diam.	¾"	1 ¼"	2"	3"
Liquid suction	Diam.	1"	1 ½"	2"	3"
Delivery mt. 10	lt./min		abt 230	abt 450	abt 680
Delivery mt. 30	lt./min		abt 150	abt 300	abt 580
Delivery mt. 60	lt./min		abt 65	abt 80	abt 340
Max. diam solid particles	mm	3	5	8	10

A STANDARD LINE WITH SPECIAL ECONOMY PRICES IS AVAIABLE

PNEUMATIC PORTABLE TRANSFER PUMP

The TURBINE TYPE are strongly built equipments. Engine body in light alloy, tube set in steel or stainless steel for rapid transfer of oil, acid, solvent, fluids in general, from drum or other containers.

The PISTON TYPE are strongly built equipments. Engine body in light alloy, pistons in steel or stainless steel, set in tube set in steel or stainless steel. Suitable for rapid transfer - even in aspiration - of oil, acid, solvent and other very thick. The pump can be supplied in special versions - silenced according to EEC regulations or in electric version.



Technical Features:

ISSA CODE	55.122.01		55.122.02		500-EL	
I.CO. CODE	500-0		17000-0		500-EL	
TYPE	TURBINE		PISTON		ELECTRIC	
Tubset material	STEEL	STAINLESS STEEL	STEEL	STAINLESS STEEL	STAINLESS STEEL	
Tubset diam.	mm	40 or 48		54	50	
Tubset Legth	mm	1000	1000	1000	1000	
Max. head	mt.	10-15	10-15	60	60	21
Max delivery water	lt./min	240	240	35	35	160
Max delivery oil *	lt./min	135	135	25	25	50
Feeding pressure	Bar	7	7	7	7	=
Air Consumption	lt./min	1200	1200	75	75	=
RPM	Nr	6000	6000	=	=	=
Strokes per min	Nr	=	=	180	180	=
Power	kW	0,75	0,75	=	=	0,75
Volts	V	=	=	=	=	230/400
Frequency	Hz	=	=	=	=	50
Air inlet	diam.	½" x 13 mm		½" x 13 mm		=
Liquid Outlet	diam.	1 1/4" x 48/60		¾" x 25		1 1/4" x 25
Weight	Kg	8	7	8,5	8	12

* The oil max delivery depends on its viscosity.

PNEUMATIC SUMP PUMP

I.CO. pneumatic sump pump is a highly resistant centrifugal pump, built in nodular cast iron or bronze (sparkless version) and has a remarkable shock resistance. The engine is sealed to avoid water leakage or penetration of sand or other particles. The impeller is in bronze and the transmission shafts are sleeved in bushings and special bearings. Equipped with lifting handle and suction filter.

ACCESSORIES:- Connections and pipes for air and water- Air filters and nebulizer- Mufflers conforming to EEC Regulations.

Technical Features:

ISSA CODE	55.120.01	55.120.02	55.120.03
I.CO. CODE	900-0-BN30 New Type	900-0-BN60 New Type	900-BZ
Type	A	B	C
Body	Cast Iron	Cast Iron	Bronze
Overall Dimensions	mm 260 x 230 x 517 h. all types		
Weight	Kg 13,5	13	20
Feeding Press.	Bar 6-7	6-7	6-8
Air Consumption	CBM/hr 50	50	
Head	mt 25	30	40
Delivery at mt.3	lt./min 600	670	
Delivery at mt.25	lt./min 320	350	
Delivery at mt.30	lt./min =	180	
Air inlet connect & Hose diam.	all types 3/4"		
Liquid outlet connect & Hose diam.	all types 2 1/2"		
Air outlet connect & Hose diam.	all types 1" x 32 mm		

PNEUMATIC SUMP PUMP
ISSA CODE 55.120.01
ICO CODE 900-0-BN 30/60 NEW TYPE



ELECTRIC SUMP PUMP

Suitable for permanent or portable application and ideal for loading anywhere there is an accumulation of water.

Technical Features:

- Power Supply furnished for a 110 Volt - Single Phase or 220 Volt - Three Phase.
- Lifting Capacity available for 7,5 mt with 0,25 CBM/min up to 40,0 mt with 1,3 CBM/min.
- Discharge diameter available in 40 mm up to 80 mm

I.CO. can furnish different models of electric sump pump, contact us to have other details and technical specifications.

ELECTRIC SUMP PUMP
ISSA CODE 55.121.10
ICO CODE 900-0-EL



GREASE LUBRICATOR PUMP

ISSA CODE 55.123.10
ICO CODE DA11C

The air operated pumps are suitable for high pressure lubrication while using all types of grease, fluid or thick and with short or long distribution. The use of first quality materials and an accurate assembly with rigorous final test guarantee reliability and endurance.

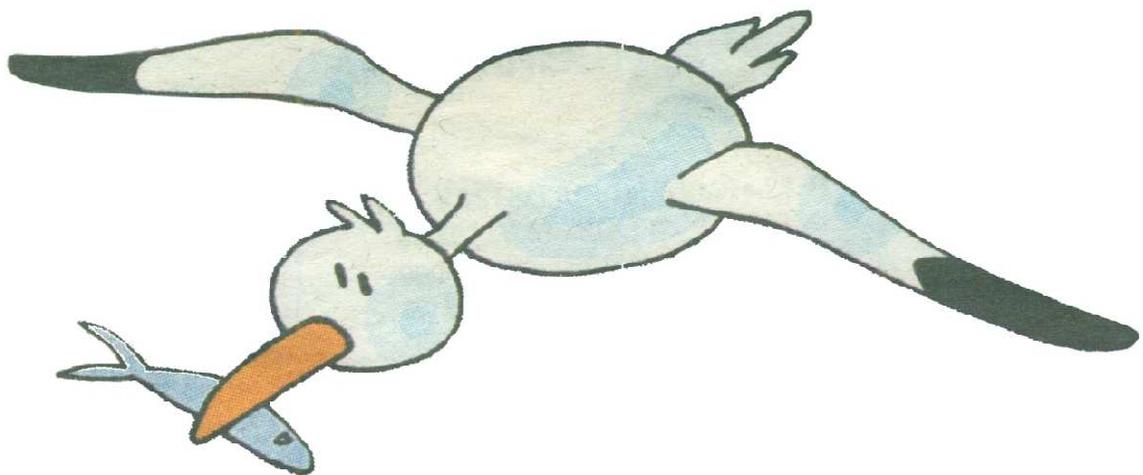
The Grease Kit with trolley is offered with:

- 25 Kg. drum air operated pump R=60:1
- 2 wheels trolley for 25 Kg. drums
- R2 1/4" distributor hose - 3 m. length
- Grease gun with flexible pipe and 4 jaw fitting
- Follower plate for drums int. diam. 375 mm
- Drum cover diam. 400 mm

The follower plate is indispensable when high viscosity greases (NLGI 2-3) is used.

It assures the compression of the grease and eludes the forming of pocket air and the suction of grease that otherwise would remain on drum walls.

Available in other models for 50Kg –100Kg drum capacity.



PLEASE VISIT
WWW.ICOTOOLS.COM

PNEUMATIC SAFETY LAMP

I.CO Pneumatic Safety Lamp for ships, refineries and chemical industries is a special explosion proof lamp. It's made of sparkproof materials.

The compressed air activates a low tension (V.12-24) generator connected directly to the turbine by a differential pressure switch which keeps the power on a constant level, avoiding irregular rotation and consequent light oscillation.

The air circuit is designed in order to guarantee complete safety, preventing infiltration of hazardous gases and maintaining the lamp constantly cooled, thus preventing all risks of combustion and explosion. I.CO pneumatic safety lamp can be immersed and used for underwater inspections, equipped with proper air discharge conveyors.

It's also available a diffused lighting version of the pneumatic Safety Lamp.

ISSA CODE 55.115.01
ICO CODE 3110-0



ISSA CODE 55.115.02
ICO CODE 3110-00



CONSTRUCTION of I.CO. pneumatic Safety Lamp:

The lamp is exceptionally resistant and its casing is in sparkproof metal. The inner part is divided into: generator, switch and lamp chamber.

The lamp chamber comprises a hardened glass globe (12mm thick) and is further protected by a brass guard.

Technical Features:

ISSA CODE		55.115.01	55.115.02
I.CO. CODE		3110-0	3110-00
Working Pressure	Bar	5 - 7	5 - 8
Halogen bulb	Watt	250	250
Singlephase generator	V	24	24
Power	Watt	250	250
Air Consumption	CBM/min	0,75	0,75
Light flux	Lumen	6000-9000	6000-9000
Approval code		Eex p II T5	Eex II 2GD II T4 / Eex I M2
Protection level		IP56	IP66
Length excluding handle	mm	290	280
Weight	Kg	13	9,5



AIR / STEAM or WATER TURBINE DRIVE SUPPLY AND EXHAUST

Type 'C' portable marine ventilators are rugged, dependable tube axial units that operate on steam, compressed air, or water. These ventilators offer maximum performance for wide range of on-board applications, for example: gas freeing, drying and ventilating operations on oil tankers and similar vessels, refineries and chemical industries. Models have flanged design in order to be mounted directly on tank opening; adapters are available to allow use of flexible duct to fit other openings.

**AIR / STEAM TURBINE DRIVE SUPPLY AND EXHAUST
MODELS 4.600 to 8.400 cfm**



**WATER TURBINE DRIVE SUPPLY AND EXHAUST
MODELS 4.70 to 7.400 cfm**



STEAM/COMPRESSED AIR TURBINE DRIVEN		WATER TURBINE DRIVE	
C-12A	C-15A	C-12AWC	C-15AWC
Supply model 5.350 cfm (9.090 m ³ /hr) Exhaust model 4.600 cfm (7.815 m ³ /hr)	Supply model 8.400 cfm (14.275 m ³ /hr) Exhaust model 6.500 cfm (11.044 m ³ /hr)	Supply model 5.000 cfm (8.495 m ³ /hr) Exhaust model 4.700 cfm (7.985 m ³ /hr)	Supply model 7.400 cfm (12.573 m ³ /hr) Exhaust model 5.750 cfm (9.769 m ³ /hr)
Features: Cast iron turbine housing with aluminium cover. Bronze turbine wheel. Cast aluminium fan and fan casing. Stainless steel fasteners, mounting studs and protective screen.		Features: Cast aluminium turbine housing. Cast aluminium impeller. Cast aluminium inlet and outlet water connections. Grease sealed stainless steel ball bearings. Cast aluminium fan and fan casing. Stainless steel fasteners and protective screen.	

Model	C-12A	C-15A	C-12AWC	C-15AWC
Ref. A	12,6 (321)	21,0 (533)	14,8 (376)	16,5 (419)
Ref. B	14,2 (362)	14,2 (362)	14,2 (362)	14,2 (362)
Ref. C	20,5 (521)	22,2 (565)	22,5 (572)	24,5 (622)
Ref. D	12,5 (318)	15,3 (389)	12,5 (318)	15,2 (387)
Ref. E	15,3 (389)	20,5 (521)	15,3 (389)	20,5 (521)
Ref. F	16,8 (427)	21,5 (546)	16,8 (427)	21,5 (546)
Bolt Slots:				
Size	0,93 (24)	1,12 (28)	0,93 (24)	1,12 (28)
N°	10	8	10	8
Net * Weight	100 lbs 45 Kg	120 lbs 54 Kg	40 lbs 18 Kg	53 lbs 24 Kg

DIMENSIONS - Inches (mm)

Ref. A – Max Height
 Ref. B – Height from the Base up to the Handles top
 Ref. C – Max Diameter
 Ref. D – Rated Diameter
 Ref. E – Base Bolt Circle
 Ref. F – Base External Diameter

ACCESSORIES

Vaned aluminium adapters to mate C-15A and C-15AWC ventilators to standard "Butterworth" deck opening.
 Aluminium adapters for flexible duct attachment. Flexible duct in various diameters and lengths. Bonding Cable.

AIR TURBINE DRIVE SUPPLY



AIR TURBINE DRIVE SUPPLY



AIR TURBINE DRIVEN	AIR TURBINE DRIVEN
I.CO. CODE 75	I.CO. CODE 12P
Supply model 3.470 m ³ /hr EX PROOF	Supply model 3.500 m ³ /hr
Dimensions: max height: 410 mm height: 410 mm max diametre: 430 mm rated diametre: 430 mm net weight: 14 kg	Dimensions: max height: 533 mm height: 533 mm max diametre: 533 mm rated diametre: 533 mm net weight: 16 kg

**AIR TURBINE DRIVE SUPPLY / EXHAUST
ATEX Ex II 2 G T6**



**ELECTRIC SUPPLY / EXHAUST
ATEX Ex II 2 G T6**



PNEUMATIC	ELECTRIC
I.CO. CODE 8S1611S	I.CO. CODE 8S1020S
Technical features: case diameter: 300 mm protection on suction side support foot upper handle for shifting ATEX Ex II 2 Gc T3 device	Technical features: -ATEX Ex II 2 Gc T3 device -single phase 230 V 50 Hz -case diameter 300 mm -rpm 2.870 -motor power 0,37 Kw -suction capacity: 3.600 m3/h -weight: 20,5 kg -noise level: 85 db (A) Complete with: -protection on suction side -support foot -upper handle for shifting

PNEUMATIC MUCKING WINCH

ISSA CODE 55.124.06 ISSA CODE 55.124.01
 ICO CODE 1450-MW6 ICO CODE 1300-MW1



Machines of strong and reliable construction and equipped with wheel/screw endless reducer irreversible under load. Suitable for any lifting operation, also in areas where there is explosion danger.

Single motor/reducer group with cable, as well as winches with special structures for different applications can be supplied. The standard version is equipped with steel no-revolving cable. On request, it's possible to supply with inox cables or with different length for longer depth.

Technical Features:

ISSA CODE		55.124.01	55.124.02	55.124.03	55.124.04	55.124.05	55.124.06
I.CO. CODE		1300-MW1	1350-MW2	1350-MW3	1400-MW4	1400-MW5	1450-MW6
model		Fixed	Directional	Directional	Directional	Directional	Directional
Lifting capacity	Kg	80 / 120	120	160	200	250	300
Lifting speed	mt/ min	37	18	12	15	14	14
Steel rope diam.	mm mm	5	5	5	5	5	5
Length	mt.	35	35	35	35	35	35
Air hose	diam.	½"	½"	½"	½"	½"	½"
Weight	Kg	50	85	85	95	100	100

Note: Standard rope length is indicated - different lengths available on request.

NEOPRENE RUBBER BUCKET

Special spark-proof bucket for tank cleaning. Made in hard neoprene rubber. While ordering please specify capacity.

ISSA CODE	I.CO. CODE	Capacity	Height	Top Diam
55.124.10	1300-BN-10	lt. 10	335 mm	260 mm
55.124.11	1300-BN-20	lt. 20	350 mm	360 mm

PNEUMATIC CASUALTY WINCH

Built in galvanised steel. Frame equipped with winding wheel and handles to allow quick and easy removal. Tested by the most important Classification International Registers.

Areas of use: TANKERS AND FREIGHTERS - FOR HOISTING INJURED MEN AND VARIOUS MATERIALS FROM TANKS, HOLDS, ETC.

ISSA CODE 55.126.01
ICO CODE 1500-MW7

Power	HP	1
Speed	mt/min	20
Air pressure	atm	6-7
Air consumption	cbm/min	1,2
Lifting capacity	Kg	250
Air inlet	diam	¾" x 19 mm
Lift from deck level	mt	15-20
Diam of sparkless steel rope	mm	5
Steel rope breaking point	Kg	1500
Overall dimensions	mm	500x500x4000
Weight	Kg	60



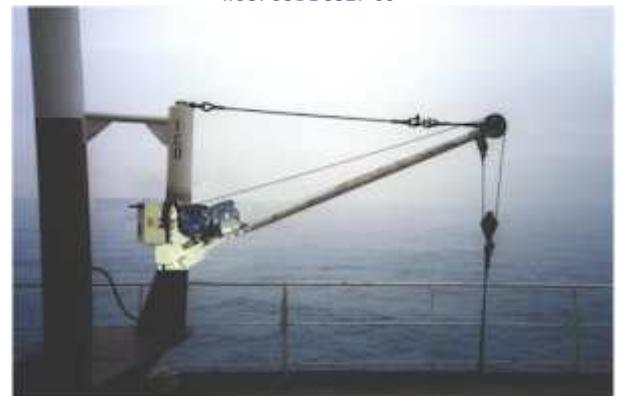
PNEUMATIC AND ELECTRIC I.CO. PORTABLE DERRICK

The I.CO. PORTABLE DERRICK is a versatile, safe and durable equipment that can be used on board of almost any kind of vessel or rig.

The I.CO. DERRICK is extremely resistant, functional and it's painted for being corrosion-free. It's easy to carry, and to erect and it requires a very simple maintenance.

It has a wide range of applications, such as manouvering of ship stores, machinery spares, provisions, boats, hoses, gangways, ladders, cleaning of cargo holds etc. I.CO. DERRICK can be PNEUMATIC or ELECTRIC, and all versions are equipped with emergency manual control system.

ISSA CODE 55.12.01
I.CO. CODE 3527-00



Technical Features:

max. lift. Capacity (Kg)	Lifting speed mt/min	Standard lift depth mt.	Max. reach mt.
500	20	50	2,5-6,0
750	15	50	2,5-6,0
1000	12	50	2,5-6,0

AIR WINCH

The Air Winch is offered in three versions: electric, pneumatic and hydraulic.

Available with 1000 kg of capacity and over, fulfils different needs for a various kind of uses on board of any kind of vessel, shipyard, industry, off-shore platform. Suitable for working under different temperatures and environments.

Technical Features:

ISSA CODE 55.124.71		
I.CO. CODE	ARG-1000	
Capacity	Kg	1.000
Air Consumption	L/sec	100
Power	CV	7
Overall dimensions	mm	652x386
Weight PM2000	Kg	200

ISSA CODE 55.124.71
ICO CODE ARG-1000



Versions with direct control or push-button control.

PNEUMATIC CHAIN HOIST

The pneumatic chain hoist offers a very good performance in any use condition, also in an heavy environment, without changing its characteristics, capacity and security.

Standard equipments:

- 3 meters lifting height;
- the commands: manual or push-button control at 2 meters;
- revolving suspension hook.

On request: rigid adaptors for the hook and different lifting height for each model can be supply.

Common characteristics:

- Air connector: 3/8 NPT - 3/4"
- Internal diameter for the advice feed pipe mm. 10-19

ISSA CODE 55.260.00
ICO CODE PM500



Versions with direct control or push-button control.

I.CO. Code manual version	I.CO. Code push-button version	Lifting power	Max speed: meter/minute				Air Consumption l/min	Weight Kg	
			Full load		Empty			manual version	push-button version
			up	down	up	down			
PM200	PP200	200	30	60	60	40	1100	19	21
PM250	PP250	250	30	60	60	40	1100	19	21
PM500	PP500	500	12	20	20	17	1100	19	21
PM1000	PP1000	1000	6	17	13	9	1200	21.5	23.5
PM2000	PP2000	2000	3,5	8	7	5	1200	29	31

These values were obtained with a feed pressure of 6.2 bar

ELECTRIC CHAIN HOIST

The rugged dynamic body provide maximum protection for moving exceedingly heavy loads.

A wide range of models are available for **110 or 220 volt single phase** power supply and **220/380/440 three-phase**.

Lifting capacity from **0,125 tons up to 10 tons**.

ISSA CODE 55.261.00
ICO CODE PE__



MANUAL CHAIN HOIST

The Manual Chain Hoist is available with lifting capacity from **0,5 tons up to 20 tons**.

ISSA CODE 55.262.00
ICO CODE PH__



ISSA CODE 55.121.01
I.CO. CODE 3500-0

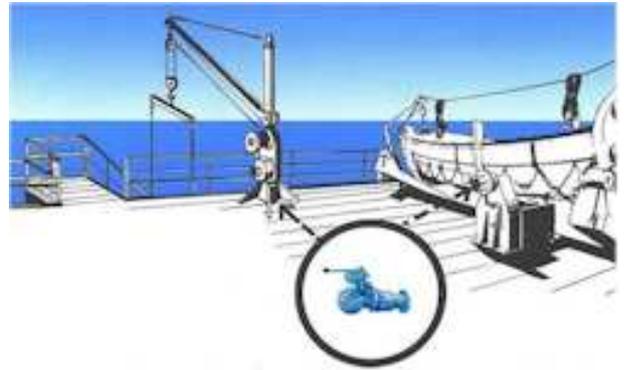
Power	HP	5
Speed	RPM	240-480
Air pressure	atm	6-10
Air consumption	cbm/min	3-6
Lifting capacity	Kg	3000-7000
Quick connection	diam	¾"
Air hose diam	mm	19
Overall dimensions	mm	450x300
Weight	Kg	32



PNEUMATIC MOTOR FOR SHIFTING ACCOMODATION LADDER AND LIFEBOAT

I.CO. pneumatic motor for shifting accomodation ladders and lifeboats has it's casing in nodular cast iron and internal gear in high resistance steel alloys.

Prepared with a coupling for fast connections to ladders, lifeboats and naval stores winches.



PNEUMATIC MOTORS / COMPRESSED AIR LINES

REVERSIBLE PNEUMATIC MOTOR FOR DIFFERENT APPLICATION

Casing in nodular cast iron and internal gear in high resistance steel alloys.

Suitable for naval and industry use. Available with a worm reduction unit or gears suitable to the request necessity.

Available with power from 0,5 up to 7 CV.

ISSA CODE 55.055.____
ICO CODE MTPN-____



FOUR WAY AIR DISTRIBUTOR

ISSA CODE 55.111.02
ICO CODE 180-0

The distributor allows the connection of 4, 5 or 6 pneumatic tools at the same time to a single air-line, and keep feeding constant pressure in each line. The distributor is equipped with handle for easy carrying, support skids, safety valve and pressure gauge. Air inlet and outlet are fitted with bronze ball valves and 'quick connections'.

A filter/ nebulizer unit can also be provided on request, together with a pressure reducer to reduce pressure from Atm. 30 to 6. Construction in special steel.



QUICK COUPLINGS

A wide range of high quality of brass and steel couplings suitable for hydraulic and pneumatic jobs.



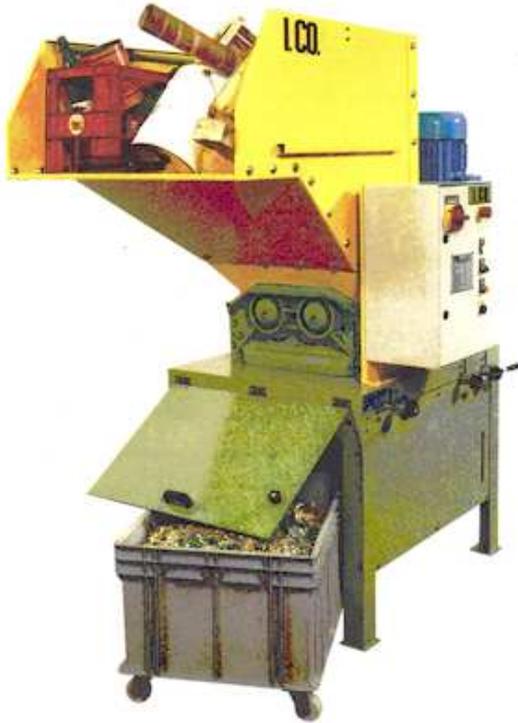
NAVAL GARBAGE SHREDDER

Equipment designed for various uses and application in different fields. Suitable for shredding of all types of materials, such as plastic and metal containers, rubber, glass, batteries, bones, wood, all types of kitchen refuse etc.

Equipment built in accordance with IMO-MARPOL anti sea-pollution Regulations.

On request, different voltages or air driven equipment are available.

ISSA CODE 55.130.01
ICO CODE 15000-A-DV



ISSA CODE	55.130.01	55.130.02	55.130.03
I.CO. CODE	15.000-A-DV	15.000-B-DV	15.000-C-DV
TYPE	A	B	C
Hopper Inlet	Mm 700 x 900	700 x 900	11209 x 1045
Hopper Capacity	Cbm 0,45	0,45	0,70
N. of Blades	N 24	24	40
Power	HP 5,5	10	15
3 Phase Voltage	V. 220/380/440	220/380/440	220/380/440
Protection grade of motor	IP 55	55	55
Max. Diam of Discharge Holes	mm 25	25	25
Efficiency of Shredder:			
Plastic/Metal containers	Kg/hr abt 150-130	abt 200-350	abt 250-450
Rubber	Kg/hr abt 100-250	abt 150-300	abt 200-400
Kitchen Refuse	Kg/hr abt 200-400	abt 250-450	abt 350-600
Overall Dimensions	mm 1300x850x2000	1550x1300x2100	1360x1045x2125
Net Weight	Kg 750	900	1700

GARBAGE COMPACTING PRESS

Equipment designed for naval, industrial and civil fields. For the naval field, the machine is in conformity with IMO-MARPOL anti sea-pollution Regulations in force and is designed in full conformity with safety rules.

It can be installed on board of any kind of vessel or drilling platform. Available in different versions.

ISSA CODE	55.131.01
I.CO. CODE	15500-T3 New Type
TYPE	T3
Dimensions of base	mm 620x670
Pressing capacity	Ton 3
Power	HP 2,2
Diam. containing cylinder	mm 550
Overall Height:	
- open	mm 1740
- closed	mm 1740
3 Phase voltage	V. *220/380/440
Net Weight	Kg 220



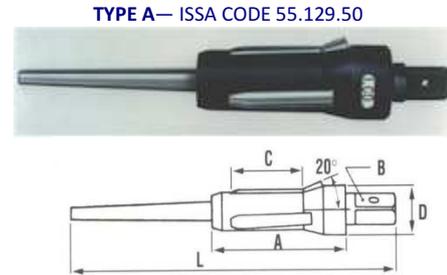
Type 'T3' - PRESSING CAPACITY Ton 3
ISSA CODE 55.131.01
I.CO. CODE 15.500-T3-NEW TYPE



AUTOMATIC EXPANDER FOR PIPES

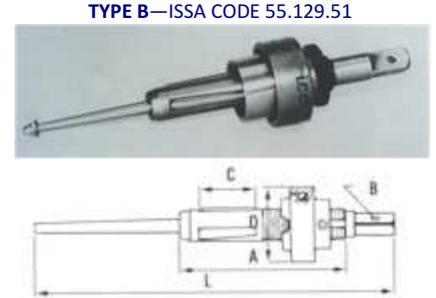
TYPE A

Used to expand and flare the pipes at the same time. It's composed of a cage pin and 5 rolls, of which 2 flaring and 2 expanding. One of the expanding rolls is elongated in order to flatten the protuberance which usually forms inside the pipe, at the junction between expanding and flaring rolls.



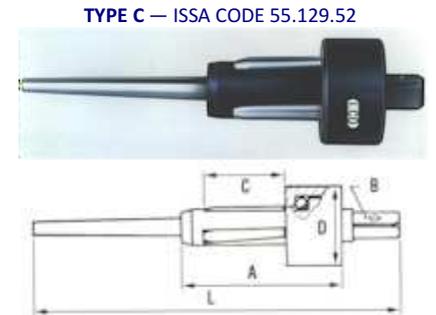
TYPE B

Equipped with thrust bearing pawl which rotates on ball bearings. The pawl is adjustable in order to vary depth of expansion. The pawl rests against the pipehead and is equipped with chamber spacer to allow lengthening of the pipe externally. Also available with rotating pawl and increased expansion depth.



TYPE C

Suitable in all cases where only expansion is required and not flaring. Equipped with rotating pawl.



ISSA CODE				55.129.52 Type C			55.129.50 Type A			55.129.51 Type B		
Size	Expansion	C	Frame	A	D	L	A	D	L	A	D	L
01	8-9,25				21			13			31	
1	8,5-10				21			14			31	
2	9-10,5				22			14			31	
03	9,5-11				22			15			32	
3	10-11,5				23	130		15	130		32	165
04	10,5-12				23			16			33	
4	11-12,5				24			16			33	
05	11,5-13	25		60	24		62	17		90	34	
5	12-13,5				25			17			34	
06	12,5-14		9		25			18			35	
6	13-15				26			18			36	
7	13,5-15,5				26			19			37	
08	14-16				27	145		19	145	38	175	
8	14,5-16,5				27			20			38	
09	15-17				28			20			39	
9	15,5-17,5				28			21			39	
10	16-18,5				35			21			40	
011	17-20				37			22			45	
11	18-21	30		70	38		67	23		95	46	
12	19-22				39			24			47	
13	20-23				40	160		25	160		48	195
14	21-24,5				41			27			52	

PNEUMATIC AND ELECTRIC PIPE CLEANING EQUIPMENT

Equipment designed for proper maintenance and internal cleaning of pipes of boilers, exchangers, refrigerators, condensers, as well as pipes from chemical and food plants, and various other uses.

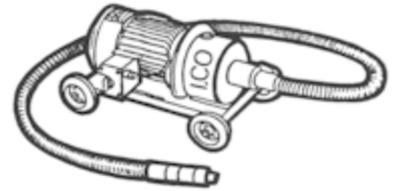
PNEUMATIC TURBINE
ISSA CODE 55.129.04
ICO CODE 4000-TYPE



ELECTRIC - TYPE 'A'
ISSA CODE 55.129.02
ICO CODE 1660-00-2F



ELECTRIC - TYPE 'B'
ISSA CODE 55.129.03
ICO CODE 1600-00-2F



CLEANING TOOLS FOR PNEUMATIC OR ELECTRIC PIPE CLEANING EQUIPMENT

ISSA CODE	I.CO. CODE	Tool		ISSA CODE	I.CO. CODE	Tool	
55.129.10	21	Spindle type cutter		55.129.17	28	Oscillating cutter head	
55.129.11	22	Conical cutter		55.129.18	29	Twin spiral cylindrical brush	
55.129.12	23	Expanding blade cleaner		55.129.19	30	Wheel cutter scaler	
55.129.13	24	Eccentric cutter		55.129.20	31	Twin blade tungsten carbide cutter	
55.129.14	25	Expanding brush cleaner		55.129.21	32	Three blade tungsten carbide cutter	
55.129.15	26	Single spiral cylindrical brush		55.129.22	33	Four blade tungsten carbide cutter	
55.129.16	27	Expanding cutter head					

ROD TYPE PNEUMATIC SCALING EQUIPMENT

For cleaning the clogged condenser pipes. The rods are perforated to allow the passage of water, air or chemicals in order to facilitate cooling of the equipment and elimination of residue.

Normally Tungsten Carbide cutters with holes for liquid passage are fitted on the equipment.

ISSA CODE 55.129.05
ICO CODE 3800

ISSA CODE 55.129.06
ICO CODE 12100



Technical Features:

ISSA CODE		55.129.05	55.129.06
I.CO. CODE		3800	12100
Scaling range inside diam.	mm	8-25	26-45
Power	HP	1	1,2
Rod diam. (length mt I)	mm	6-16	20-25
Max. scaling length	mt	5-10	10-12
Weight	Kg	6	8

ELECTRIC PIPE CLEANER TECHNICAL SPECIFICATIONS

Choice and use of the equipment:

The type of tool to be employed is chosen and selected according to:

Inner diameter of pipe to be cleaned;

Structure of pipe: straight or with elbows;

Type and nature of scaling.

TYPE	'A'	'B'
ISSA Code n.	55.129.02	55.129.03
I.CO. Code	1660-00-2F	1600-00-2F
With speed variator	from RPM 300 to 2800	-
Internal diam. of pipes to be cleaned	From 10 mm to 50 mm	From 50 mm to 160 mm or over
Single speed	-	Either RPM 1400 or 2800
Motors available:	D.C.: V. 110/220 - A.C.: V. 24/48/110/220/380 (1 or 3 Phase)	

TECHNICAL TABLE FOR CHOICE OF TOOLS

● Applicable tool ✗ Not applicable tool

When ordering, always specify type of equipment needed and inside diam. of pipe to be cleaned (For example: N. 1 Turbine type '5' for pipe inside diam mm 30).

Internal diam. of pipes to be cleaned [mm]	9 14	10 15	15 18	18 21	21 25	24 29	29 33	34 45	44 55	55 65	66 85	85 115	115 160	Over 160
Turbine Type		0	1	2	3	4/4R	5/5R	6	7	8	9	10	11	12
Turbine diam. [mm]		13,2	14,5	17,3	19,5	22,5	27,5	34	40	50	63	80	100	100
Threaded coupling	M4	M5	M6	M6	M6	M8	M10	M10	M12	M14	M16	M22	M22	M22
Pneum. Flexible Shaft-Type C	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Air consumption [l/min]	500/900	300	300	450	450	500	600	700	950	950	1600	1800	1800	1800
Electric-Type A	●	●	●	●	●	●	●	✗	✗	✗	✗	✗	✗	✗
Electric-Type B	✗	✗	✗	✗	✗	✗	✗	●	●	●	●	●	●	●
Flexible shaft' diameter [mm]	8	8	12	14	17	17	17	23	28	28	35	35	35	35
TOOLS TYPE:														
21	●	●	●	●	●	●	●	●	●	●	●	●	●	●
22	●	●	●	●	●	●	●	●	●	●	●	●	●	●
23	✗	✗	✗	✗	●	●	●	●	●	●	●	●	●	●
24	●	●	●	●	●	●	●	●	●	●	●	●	●	●
25	✗	✗	✗	●	●	●	●	●	●	●	●	●	●	●
26	●	●	●	●	●	●	●	●	●	●	●	●	●	●
27	✗	✗	✗	✗	✗	✗	✗	●	●	●	●	●	●	●
28	✗	✗	✗	●	●	●	●	●	●	●	●	●	●	●
29	●	●	●	●	●	●	●	●	●	●	●	●	●	●
30	✗	✗	✗	✗	✗	✗	✗	✗	●	●	●	✗	✗	✗
31	●	●	●	●	●	●	●	●	●	●	●	●	●	●
32	●	●	●	●	●	●	●	●	●	●	●	●	●	●
33	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Cardan joint	00	0	1-3	1-3	1-3	4/4R	5-6	5-6	7	8	9	10-12	10-12	10-12
Flexible joint	00	0	1-3	1-3	1-3	4/4R	5-6	5-6	7	8	9	10-12	10-12	10-12

SAFETY FOOTWEAR

Toe cap, antislip outsole, antistatic footwear.
Oil and hydrocarbon proof outsole with Energy absorption in the heel region. **I.CO. CODE AF0**



Toe cap, antislip outsole, antistatic footwear with penetration proof inset.
Oil and hydrocarbon proof outsole with Energy absorption in the heel region. **I.CO. CODE AF1**



Toe cap, antislip outsole, antistatic footwear with penetration proof inset.
Oil and hydrocarbon proof outsole with energy absorption in the heel region. **I.CO. CODE AF2**



Toe cap, antislip outsole, antistatic footwear with penetration proof inset.
Oil and hydrocarbon proof outsole with Energy absorption in the heel region.
I.CO. CODE AF3



Toe cap, antislip outsole, antistatic footwear with penetration proof inset.
Quick opening. Oil and hydrocarbon proof outsole with Energy absorption in the heel region. **I.CO. CODE AF4**



Toe cap, antislip outsole, antistatic footwear with penetration proof inset.
Front protection with strap closure. Oil and hydrocarbon proof outsole with Energy absorption in the heel region. **I.CO. CODE AF5**



Suede shoe, perforated with Toe cap, antislip outsole, antistatic footwear with penetration proof inset.
Oil and hydrocarbon proof outsole with Energy absorption in the heel region. **I.CO. CODE AF6**

