

# Vulcanizing Machines

90 - 104

- 5.1 Pro-series for belts
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- 5.6 Spot Repair Presses
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## Introduction

### SHAW-ALMEX, The Company

In 1962, the founder E. J. Alm had an innovative idea for a revolutionary conveyor belt vulcanizer, being the pressure bag system. From that idea a company began in a small Canadian town, the company grew to the Shaw Almex Global Group of today:

- 4 manufacturing facilities
- Shaw Almex sales and service offices for 5 continents
- 10.000's vulcansing presses sold worldwide.
- Customers in over 95 countries

Our outstanding engineering capabilities, a willingness to solve challenging design problems and the unique partnership we build with each of our clients has resulted in the rapid growth of our product range and world-wide network.

### The Almex principle

*"The weakest point of a conveyor belt is the splice"*

Conveyor belts are crucial and expensive assets in any bulk handling operation. A lot of research, time and money is spent on selecting the most efficient, reliable and economical conveyor belt that suits the application. Still the splice always remains the weakest and most vulnerable point in a conveyor belt! If the splice fails, the conveyor fails which can result in tremendous costs and down time.

In order to secure the best splice the following is needed:

1. Skilled splice technician who prepare the splice.
2. Correct splice materials, matching the belt specifications.
3. The right overall pressure during the vulcanizing process.
4. The correct temperature is crucial for a correct vulcanizing process.

ALMEX vulcanizing presses guarantee to solve items 3 and 4 in the fastest possible time through its unique proven features:

1. Air/water bag pressure system
2. Flexible pressure platens
3. Flexible heating element.
4. Integral water cooling on all ALMEX presses



## The Almex vulcanizing features

### Flexible platens and air/water bag.

It is very important that during the splice vulcanizing process the splice area receives uniform pressure at every spot!

What happens if pressure is not equal or enough?

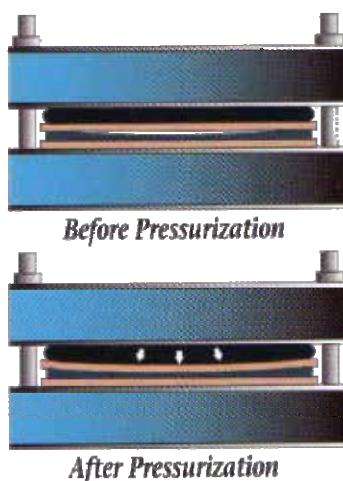
- Porosity and poor adhesion at those places that do not receive enough pressure.
- Ply separation and blisters because of trapped moisture and air.
- Lose of tensile strength.
- All this results in potential failing splices or heavily reduced lifetime of splices.

### Causes of unequal pressure:

- Thickness of a belt is never the same everywhere. On used belting the centre is often worn out causing a lesser thickness in the middle of the belt compared to the edges. Using rigid pressure plates will result in higher pressure on the edge of the belt than in the middle.
- For steel cord belting the rubber for the splice area is hand made which will never result in equal amounts on every place.'
- Failing or leaking components on hydraulics can cause lesser pressure on certain spots.

In order to guarantee uniform pressure, ALMEX pressures are equipped with flexible platens and air/water bag pressure systems. As a result:

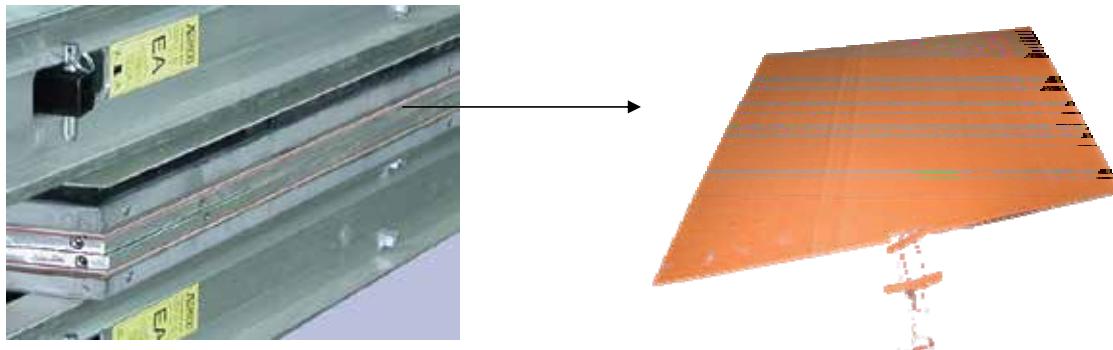
- The bag covers the whole splice area
- The pressure platens take the shape of the belt.
- THE BEST PRESSURE SYSTEM



## Flexible heating platen and temperature.

Uniform and correct temperature during splicing is as important as uniform pressure.  
Incorrect temperatures result in the following:

1. Too high temperature will over cure the splice rubber and causes a brittle and hard splice.
2. Too low temperature will under cure the splice rubber and causes the splice to be soft and plastic.
3. Both will result in a splice with low mechanical properties such as: low tensile strength, low abrasion resistance and low adhesion values.

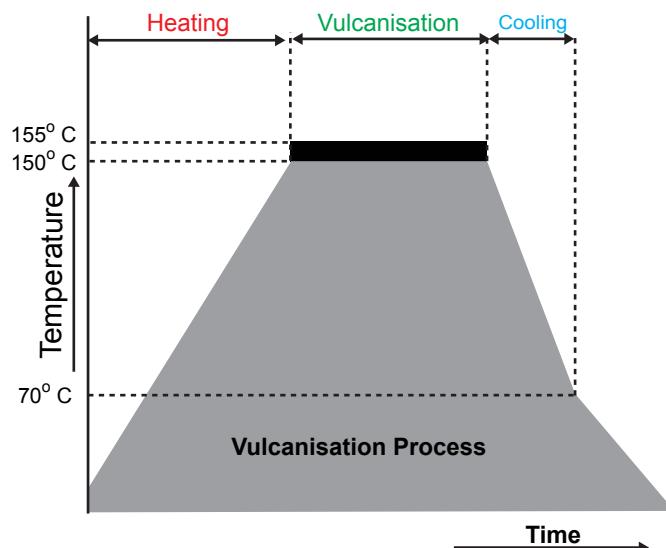


The ALMEX flexible heating elements provide the following:

1. High energy efficiency due to direct contact over the total splice surface.
2. Very good isolation eliminates heat loss.
3. Double wiring at the edges of the heating element compensates for loss due to contact with air on the edges.
4. The above results in:
  - a. Temperature accuracy of maximum +/- 3 degree Celcius!
  - b. Fast heat and efficient heat up, typical 20-30 minutes depending belt thickness.

## Water cooling, splice quality and time

A typical splicing curve can be seen below.



### Heating:

- ALMEX presses and designs are designed in such way that it guarantees uniform temperature at every single spot on splice area.
- Direct contact with heating platens and superior isolation guarantees a high energy efficiency and thus fast heat up. Typical 20-25 minutes.
- Temperature inside the splice and indicated on the control box varies maximum +/- 3 degrees Celsius.
- Each heating platen has an individual temperature controller which avoids surprises at the end of a splice because a heating platen failed!
- ALMEX uses logical controllers in order to avoid temperature overshoot during heat up.

### Vulcanisation:

- Logical controllers guarantee that temperature remains exactly on the temperature indicated by the belt manufacturer.

### Cooling:

- All ALMEX presses are equipped with water cooling. The cool platens are made of a special aluminum alloy with extruded cooling channels. The cooling water is therefore in direct contact with the plate itself and therefore cools very quickly. On plied belting the temperature goes down from 150 degree to 65 in about 5 minutes for plied belting.

The ALMEX presses can typically perform a total splice cycle, heating, vulcanizing and cooling in 50-60 minutes for plied belting (depending on the belt type and thickness).

## 5.1 Pro-series, Steel & Fabric ply Machines



Model - PRO 60				Maximum operating pressure 60 psi (4 kg/cm <sup>2</sup> )  Maximum temperature 325 deg F (160 deg C)													
MODEL	PLATEN SIZE	MAXIMUM BELT WIDTH		WEIGHTS				OVERALL HEIGHT		OVERALL WIDTH		OVERALL LENGTH					
				TOP HALF		TOTAL											
PRO 60 - Rectangular Models				IN	MM	IN	MM	LBS	KG	LBS	KG	IN	MM	IN	MM	IN	MM
PRO60R-1440	14 x 40	355 x 1015	36	900	112	51	246	112	16	405	15	380	49	1245			
PRO60R-1636	16 x 36	405 x 915	32	800	120	54	274	124	18	455	17	430	52	1320			
PRO60R-1654	16 x 54	405 x 1370	48	1200	198	90	424	192	18	455	17	430	70	1780			
PRO60R-1852	18 x 52	455 x 1320	48	1200	200	91	435	197	18	455	19	480	69	1750			
PRO 60 - Rhomboid Models (all platens built on a 22 degree bias with a "left hand" lead.)																	
PRO60-1930	19 x 30	480 x 760	24	600	100	45	225	102	16	405	19	480	51	1295			
PRO60-1937	19 x 37	480 x 940	32	800	120	54	270	122	16	405	19	480	58	1475			
PRO60-1943	19 x 43	480 x 1090	36	900	146	66	319	145	16	405	19	480	64	1625			
PRO60-1950	19 x 50	480 x 1270	42	1050	196	89	420	190	18	455	19	480	72	1830			
PRO60-1956	19 x 56	480 x 1420	48	1200	218	99	472	214	19	480	19	480	78	1980			
Smaller models include in-frame controls. Larger sizes and 3 phase models require remote controls.																	
Optional side carrying handles available upon request.																	

Specifications are approximate and subject to change without notice.  
 All models available have not been included on this list.

## SPECIFICATIONS - FRAME VULCANIZERS - PRO AND SOLO XPRESS

Model - PRO 100				Maximum operating pressure 100 psi (7 kg/cm) <sup>2</sup>  Maximum temperature 325 deg F (160 deg C)											
MODEL	PLATEN SIZE		MAXIMUM BELT WIDTH		WEIGHTS				OVERALL HEIGHT		OVERALL WIDTH		OVERALL LENGTH		
	IN	MM	IN	MM	TOP HALF	TOTAL	LBS	KG							
<b>PRO 100 - Rectangular Models</b>															
PRO100R-1420	14 x 20	355 x 510	18	450	63	29	142	64	16	405	17	430	29	735	
PRO100R-1426	14 x 26	355 x 660	24	600	79	36	174	79	16	405	17	430	35	890	
PRO100R-1434	14 x 34	355 x 865	30	750	108	49	233	106	16	405	17	430	44	1115	
PRO100R-1842	18 x 42	455 x 1065	38	950	170	77	326	148	19	480	19	480	58	1475	
PRO100R-1446	14 x 46	355 x 1170	42	1050	149	68	324	147	20	510	17	430	56	1420	
PRO100R-1846	18 x 46	455 x 1170	42	1050	191	87	417	189	20	510	19	480	62	1575	
PRO100R-2646 *	26 x 46	660 x 1170	42	1050	295	134	652	296	22	560	27	685	62	1575	
PRO100R-1852	18 x 52	455 x 1320	48	1200	220	100	475	215	21	535	19	480	69	1750	
PRO100R-1454	14 x 54	355 x 1370	50	1250	189	86	400	181	21	535	17	430	70	1780	
PRO100R-1864 *	18 x 64	455 x 1625	60	1500	316	143	690	313	23	585	19	480	81	2055	
<b>PRO 100 - Rhomboid Models (all platens built on a 22 degree bias with a "left hand" lead.)</b>															
PRO100-1924	19 x 24	480 x 610	20	500	98	44	212	96	16	405	19	480	45	1145	
PRO100-1930	19 x 30	480 x 760	24	600	110	50	245	111	17	430	19	480	51	1295	
PRO100-2830 *	28 x 30	710 x 760	24	600	163	74	335	152	17	430	27	685	54	1370	
PRO100-1937	19 x 37	480 x 940	32	800	147	67	322	146	18	455	19	480	58	1475	
PRO100-2837 *	28 x 37	710 x 940	32	800	208	94	454	206	18	455	27	685	62	1575	
PRO100-1943	19 x 43	480 x 1090	36	900	156	71	343	156	19	480	19	480	64	1675	
PRO100-2843 *	28 x 43	710 x 1090	36	900	223	101	495	224	20	510	27	685	70	1780	
PRO100-1950	19 x 50	480 x 1270	42	1050	217	98	475	215	19	480	19	480	72	1830	
PRO100-2850 *	28 x 50	710 x 1270	42	1050	285	129	625	283	22	560	27	685	74	1880	
PRO100-1956	19 x 56	480 x 1420	48	1200	254	115	551	250	22	560	19	480	79	2005	
PRO100-2856 *	28 x 56	710 x 1420	48	1200	367	166	800	363	23	585	27	685	81	2055	
PRO100-1962 *	19 x 62	480 x 1575	54	1350	281	127	610	277	23	585	19	480	84	2135	
PRO100-2862 *	28 x 62	710 x 1575	54	1350	416	189	922	418	25	635	27	685	87	2210	
PRO100-1970 *	19 x 70	480 x 1780	60	1500	355	161	773	351	25	635	19	480	94	2385	
PRO100-2870 *	28 x 70	710 x 1780	60	1500	507	230	1,102	500	27	685	27	685	94	2385	
Smaller models include in-frame controls. Larger sizes and 3 phase models require remote controls.															
Models with asterisk (*) include side handles. Add 6" to overall width.															

Specifications are approximate and subject to change without notice.  
 All models available have not been included on this list.

## 5.2 - SVP Series, steel & fabric ply machines



SVP 2469



Control Box



HPP20-4  
Fluid Pressure Pump





### 5.3 - MVP - Lightweight Vulcanizer



The versatile MVP Lightweight Vulcanizer from Shaw Almex is the preferred press for splicing PVC, Polyurethane, and Polyester Monofilament synthetic belting. Assembled with quality Almex components, the MVP includes the following advanced technology:

#### FEATURES

- Signature Almex "Pressure Bag" uniform pressure system
- Custom "Extruded Plank" cooling system with platens
- Innovative "Silicone Element" fast heating system
- Sturdy, two-piece aluminum frame (easy to maneuver)
- Choice of a proven "T-Series" Temperature Control Panel
- Reliable Almex air pressure pump (optional)
- All electronics approved by CE and ETL and conform to UL and CSA standards.
- Each MVP is built-to-order
- Optional cantilever stand (for shop use) and pneumatic upper platen lift available by request
- Available with new fast cycle elements

### Specifications

- **PLATENS** Custom extruded plank, silicone heating element and durable composite insulating packaging assembled in flexible platen that fully assumes contour of belt. Efficient heating/cooling cycle with maximum platen temperature of 200°C (392°F). Two normal platen widths are available, 125mm (5") platen offered in lengths of 355mm to 2185mm (14" to 86"). 200mm (8") platen available in lengths of 355mm to 810mm (14" to 124"). Weight of press varies from 15 to 385 kg (34 to 847 lbs).
- **FRAME** Two-piece durable aluminum frame is designed for easy placement around belt when take-up is difficult. Lower platen can be removed from frame for special sleeve splicing procedures. Press can be mounted to cantilever stand for regular shop use.
- **CONTROL PANEL** T1R, T2 and T3 Control Panels will accommodate various amp and volt requirements. Panel with additional timer (T2T and T3T) or fully automatic operation feature, including pressure and cooling functions, also available (T2TC and T3TC).
- **PRESSURE/COOLING** MPV has a maximum operating pressure of 2.8 kg/cm<sup>2</sup> (40 psi) that is applied with down-stroking pressure from signature Almex pressure bag (ensures equal pressure). Regulatory air pressure control mounted in frame. Cooling liquid channeled through extruded platens using in plant water or optional portable cooling systems C1 and C1M.

## 5.4 - MPX - Lightweight Press



The MPX Lightweight Vulcanizer from Shaw Almex is designed for fast and dependable belt splicing with P.V.C, Polyurethane and Polyester Monofilament synthetic belting. Constructed using the unparalleled pressing technology from Almex, every MPX is built with:

### FEATURES

- Signature Almex "Pressure Bag" uniform pressure system
- Custom "Extruded Plank" cooling system with platens
- Innovative "Silicone Element" fast heating system
- Sturdy, two-piece aluminum frame (easy to maneuver)
- Choice of a proven "T-Series" Temperature Control Panel
- Reliable Almex air pressure pump (optional)
- Low wattage MPX available by request for special site requirements.
- Available with new fast cycle elements.

### Specifications

- **PLATENS** Standard platen width is 150mm (6"). MPX 1.5 platens can be 355mm to 1625 (14" to 64") in length. MPX 2.2 can be 355mm to 1320mm (14" to 52") in length. Weight of equipment spans from 15kg to 88kg (323 lbs to 195 lbs). Custom extruded plank, silicone heating element, and durable composit insulating packaging, assembled in flexible platen that fully assumes contour of belt. Efficient heating/cooling cycle with maximum platen temperature of 200°C (392°F).
- **FRAME** Two-piece durable aluminum frame is easy for single user to position on belt. MPX frame profile is exceptionally low, with height ranging from only 205mm (8") to 285mm (11.25").
- **CONTROL PANEL** T1R, T2 and T3 Control Panels will accommodate various amp and volt requirements. Panel with additional timer (T2T and T3T) or fully automatic operation feature, including pressure and cooling functions, also available (T2TC and T3TC).
- **PRESSURE/COOLING** MPX built-to-order with operating pressure of either 1.5kg/cm<sup>2</sup> (20 psi) or 2.2 kg/cm<sup>2</sup> (30 psi). Uniform pressure guaranteed with Almex pressure bag (air system). Cooling liquid channeled through extruded platens using in plant water or optional portable cooling systems C1 and C1M.

## 5.5 - PVC Belt Finger Punches

The finger punches are designed for punching single finger and fingerover-finger designs in lightweight PVC and PU type belts. These punches are lightweight and portable for both shop and field use.



MODEL	BELT WIDTH		OVERALL DIMENSIONS (L x W x H)		WEIGHT	
	IN	MM	IN	MM	LB	KG
AFP 400-F	16	400	24 x 10 x 12	600 x 250 x 290	33	15
AFP 800-F	32	800	40 x 10 x 12	1000 x 250 x 290	38	17
AFP 1200-F	47	1200	55 x 10 x 12	1400 x 250 x 290	44	20
AFP 1600-F	63	1600	71 x 10 x 12	1800 x 250 x 290	49	22
AFP 2400-F	95	2400	103 x 10 x 12	2600 x 250 x 290	77	35
AFP 3000-F	118	3000	126 x 10 x 12	3200 x 250 x 290	99	45
AFP 400-S	16	400	24 x 14 x 12	600 x 340 x 290	66	30
AFP 800-S	32	800	40 x 14 x 12	1000 x 340 x 290	88	40
AFP 1200-S	47	1200	55 x 14 x 12	1400 x 340 x 290	99	45
AFP 1600-S	63	1600	71 x 14 x 12	1800 x 340 x 290	110	50
AFP 2400-S	95	2400	103 x 14 x 12	2600 x 340 x 290	165	75
AFP 3000-S	118	3000	126 x 14 x 12	3200 x 340 x 290	190	86

Above specifications are approximate and are subject to change without notice.

### Standard Items:

- Maximum belt thickness is 6 mm depending on porosity
- Punching unit with hydraulic cylinder
- Standard Blades 80 x 20mm
- Standard units include hydraulic hand pump & hose
- Limit stops & belt holding clamps
- Cutting board with standard blades
- Other blade sizes & types available

## 5.6 - Spot Repair Presses

### SUPERSPOTTER VULCANIZERS

Operating Pressures up to 5 kg/cm<sup>2</sup>

The ALMEX Superspotter vulcanizer, designed for spot repair, is the most lightweight, portable repair vulcanizer offered by Shaw-Almex.

The SSP model is a 'one-man' repair press, allowing one person to carry the press to the repair location, assemble the vulcanizer, and effect the repair.

The ease of transport and operation means a very fast cycle to minimize conveyor downtime.



Other features include:

- low profile for repairs in confined locations.
- integral water cooling for faster repairs.
- interchangeable 110/220 voltage on each press.
- convenient carrying case for platens and accessories.

Suitable for repairs to both fabric and steelcord belts up to 1980 mm wide.  
Maximum pressure of (5 kg/cm<sup>2</sup>).

PART No.	PLATEN SIZE	MAXIMUM BELT WIDTH	WEIGHT		TEMPERATURE RANGE
			MM	MM	
KG	KG	°C			
4510126030	300 x 300	1525	23	25	104 - 163
4510127830	300 x 300	1980	43	25	104 - 163

## 5.7 - Accessories

	<b>Wedges for vulcanizing presses (50 mm wide)</b>		
404 299 1070	2 Wedges 1200 x 50 x 3 mm	2,60 Kg	
404 299 1071	2 Wedges 1200 x 50 x 4 mm	3,60 Kg	
404 299 1096	2 Wedges 1200 x 50 x 5 mm	4,60 Kg	
404 299 1097	2 Wedges 1200 x 50 x 6 mm	5,50 Kg	
404 299 1098	2 Wedges 1200 x 50 x 7 mm (4+3)	6,30 Kg	
404 299 1099	2 Wedges 1200 x 50 x 8 mm	7,40 Kg	
404 299 1100	2 Wedges 1200 x 50 x 9 mm (5+4)	8,30 Kg	
404 299 1101	2 Wedges 1200 x 50 x 10 mm	9,30 Kg	
404 299 1102	2 Wedges 1200 x 50 x 11 mm (6+5)	10,20 Kg	
404 299 1103	2 Wedges 1200 x 50 x 12 mm	11,30 Kg	
404 299 1104	2 Wedges 1200 x 50 x 13 mm (8+5)	12,00 Kg	
404 299 1105	2 Wedges 1200 x 50 x 14 mm	12,80 Kg	
404 299 1106	2 Wedges 1200 x 50 x 15 mm	16,00 Kg	
404 299 1107	2 Wedges 1200 x 50 x 16 mm	14,80 Kg	
404 299 1072	2 Wedges 1200 x 50 x 17 mm (12+5)	16,00 Kg	
404 299 1073	2 Wedges 1200 x 50 x 18 mm	16,60 Kg	
404 299 1074	2 Wedges 1200 x 50 x 19 mm (15+4)	17,60 Kg	
404 299 1075	2 Wedges 1200 x 50 x 20 mm	18,40 Kg	
404 299 1076	2 Wedges 1200 x 50 x 21 mm (15+6)	19,40 Kg	
404 299 1077	2 Wedges 1200 x 50 x 22 mm (12+10)	20,00 Kg	
404 299 1108	<b>Brace of wedges 1,200 x 50 mm (both)</b> Chain Ø 6 mm 1800 mm long	1,40 Kg	
	<b>Wedges for vulcanizing presses (80 mm wide)</b>		
404 299 1078	2 Wedges 2000 x 80 x 4 mm	10,88 Kg	
404 299 1079	2 Wedges 2000 x 80 x 5 mm	13,82 Kg	
404 299 1080	2 Wedges 2000 x 80 x 6 mm	16,32 Kg	
404 299 1081	2 Wedges 2000 x 80 x 8 mm	21,76 Kg	
404 299 1082	2 Wedges 2000 x 80 x 9 mm (5+4)	24,51 Kg	
404 299 1089	2 Wedges 2000 x 80 x 10 mm	27,21 Kg	
404 299 1090	2 Wedges 2000 x 80 x 11 mm (6+5)	29,92 Kg	
404 299 1091	2 Wedges 2000 x 80 x 12 mm	32,64 Kg	
404 299 1092	2 Wedges 2000 x 80 x 13 mm (8+5)	35,36 Kg	
404 299 1093	2 Wedges 2000 x 80 x 14 mm (8+6)	38,08 Kg	
404 299 1094	2 Wedges 2000 x 80 x 15 mm	40,82 Kg	
404 299 1095	2 Wedges 2000 x 80 x 16 mm (10+6)	43,52 Kg	
404 299 1083	2 Wedges 2000 x 80 x 17 mm (12+5)	46,24 Kg	
404 299 1084	2 Wedges 2000 x 80 x 18 mm (12+6)	48,96 Kg	
404 299 1085	2 Wedges 2000 x 80 x 19 mm (15+4)	51,68 Kg	
404 299 1086	2 Wedges 2000 x 80 x 20 mm	54,41 Kg	
404 299 1087	2 Wedges 2000 x 80 x 21 mm (15+6)	57,12 Kg	
404 299 1088	2 Wedges 2000 x 80 x 22 mm (12+10)	60,52 Kg	
404 299 1110	<b>Brace of wedges 2,000 x 80 mm (both)</b> Chain Ø 8 mm 2700 mm long	2,4 Kg	
404 299 1153	<b>Clamp 250 mm</b>	1,50 Kg	
404 299 1013	<b>Clamp with pump 400 mm</b>	2,25 Kg	