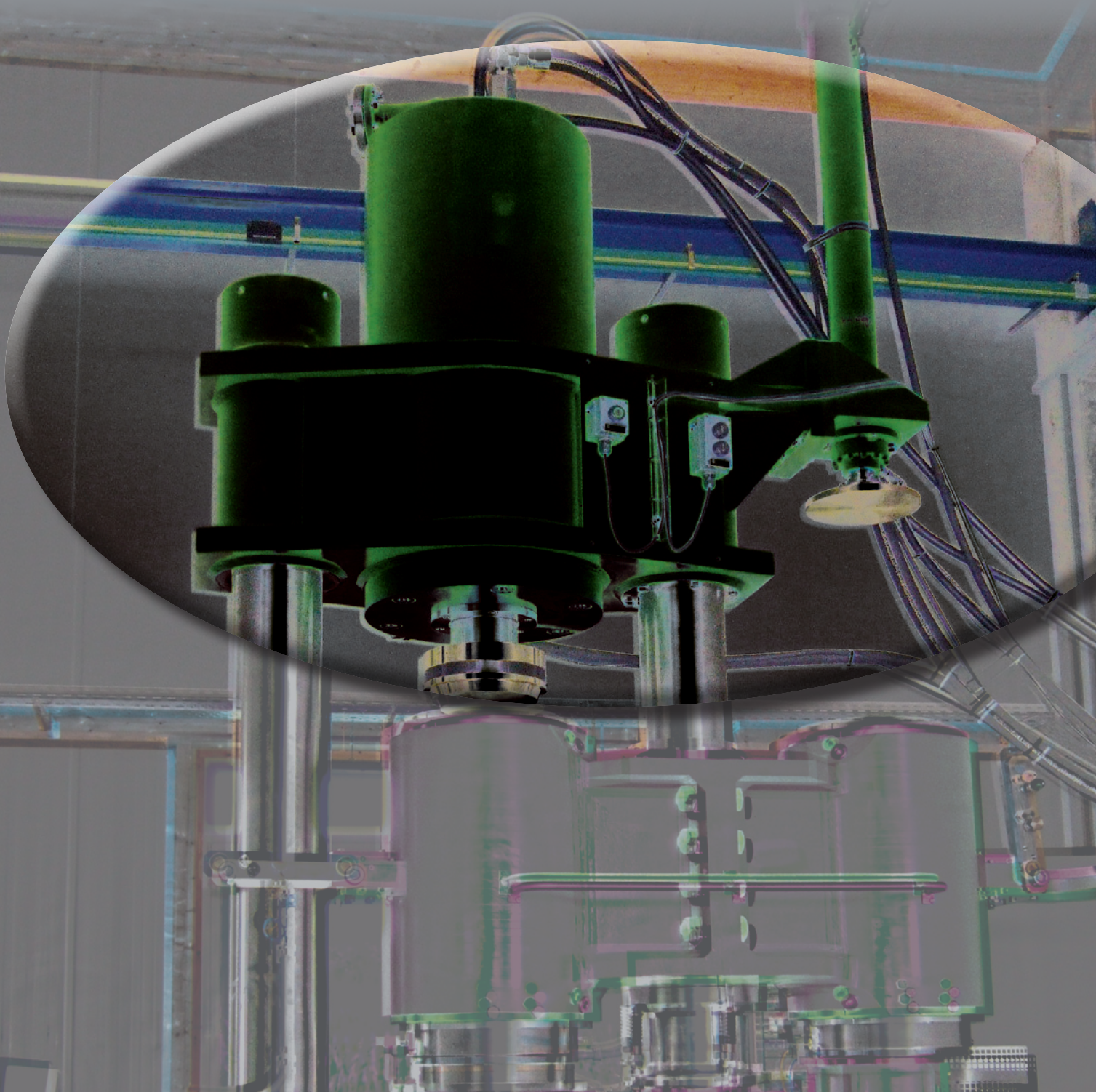


bowasag

EXTRUSION PRESS

SB 750/900/2500/4300



EXTRUSION PRESS

SB 750/900/2500/4300

Main Operation

■ The production of strands of various diameters and perforations for different types of *single base propellants*.

Available Capacities

■ The capacity depends on the consistency of the dough, the configurations and diameters of the propellant strands and on the number and models of inserted dies. So for *single base propellants* Extrusion presses from 750 up to 4300 kN main cylinder force are available.

BOWAS Extrusion Process

BOWAS is in a position to offer a modern, state of the art plant concept which fits into the concept of existing *client's* plant sections actually under modernization and as stand alone solutions. The plant concept aims at offering the most economic solution which follows the *client's* requirements.

The kneading dough is manually fed into the mass container by the operator. As soon as the mass container is filled, the operator starts the pre-pressing by means of a two-hand actuated switch – important for safety reasons. For the lifting and automatic positioning of the dough-barrels special devices are available.

Once the pre-pressing is finished after numbers of cycles, the mass container is manually revolved for 180° around one pillar. Now, the main pressing takes place automatically, with the selected speed. The pressure increases during start of pressing. So strands will be produced passing dies with different formats, then the single strands will be directed and collected by special devices, available as accessory kits.

For the highest performance of the press it is required to fill the second mass container and actuate the pre-presser in the same time as the main pressing is carried on.

After finishing the main pressing, the mass containers are manually revolved back to their start position. By means of an ejector cylinder, the die support is removed throughout the mass container,

the die unit is replaced for cleaning and ready for reusing. Afterwards, the cycle can start again.

Advantages of the Process

Compared to other existing extrusion processes BOWAS' process offers the following advantages:

Safety – Special care has been dedicated to increase the safety of the extrusion process. All equipment has been designed and built in accordance with the latest and most advanced technology and is based on our extensive experience in the field of explosives and propellant production. An important increase in safety is achieved by *two-hand actuated switches* operations, where required.

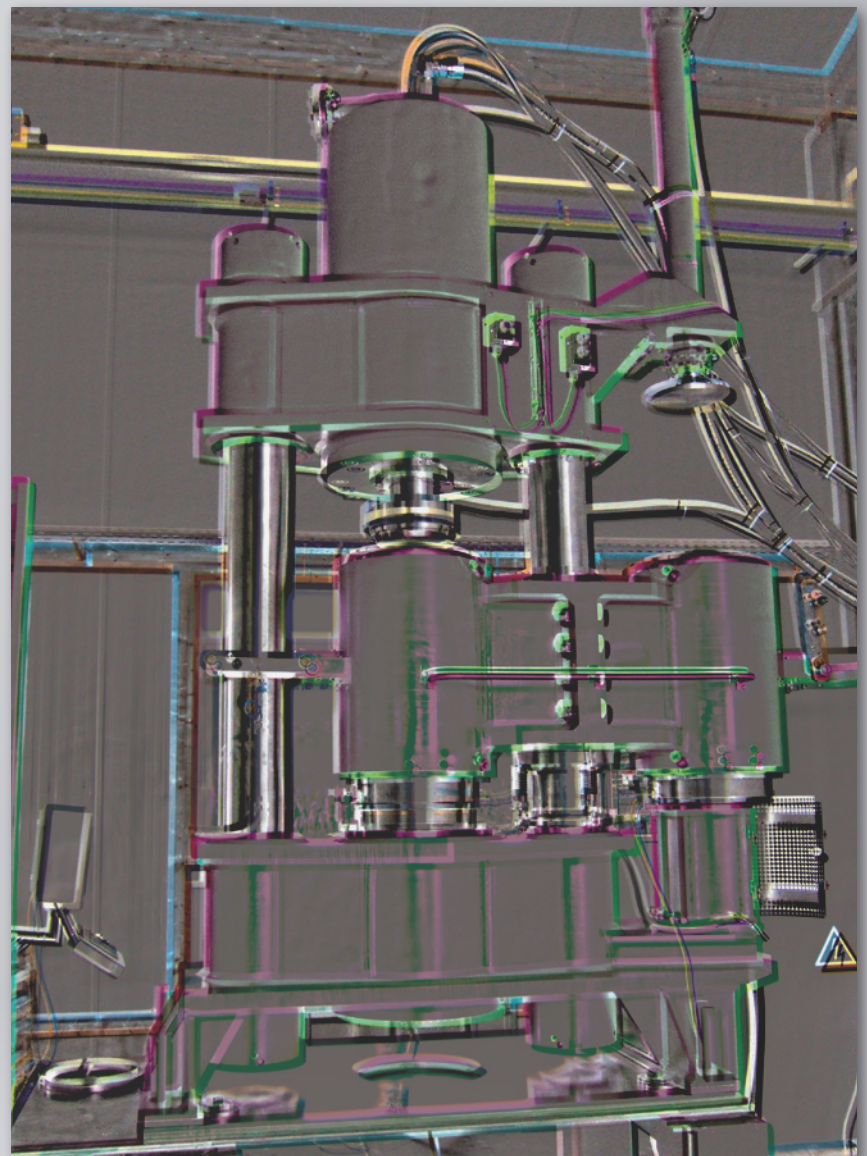
The process is designed with the necessary *automation* level in order to minimize the number of operating personnel in areas of potential risk. This also reduces the frequency and duration of the operators' activities in these areas.

The Extrusion press is equipped with a *pressure control system*, which is activated as soon as the propellant dough is compressed by the main press ram. During start of extrusion the pressure increases from zero to the pre-set max. level in an adjustable period of time. The required pressing speed is then maintained during the main pressing operation.

This pressure control system guarantees safe operation and the underlying operating figures as *empirical data sets* of years of operating experience and research save operating and main-

tenance costs and are responsible for the good *surface-quality* of the extruded strands. Ergonomics for the operating personnel in the different operation steps are improved by mechanized handling providing safety and cost effective production with known and tested technology.

Better economic results – The design and concept of BOWAS' pressing process together with a predefined degree of automation offer an optimum balance between investment costs and necessary personnel requirements. The equipment is designed for a high availability at low maintenance costs.



bowasag



EXTRUSION
PRESS

SB 750/900/2500/4300

EXTRUSION PRESS

SB 750/900/2500/4300

Technical characteristics

Extrusion Press Type **SB 750** **SB 900** **SB 2500** **SB 4300**
Single Base

main pressing force	750 kN	880 kN	3000 kN	4300 kN
return force	150 kN	150 kN	150 kN	150 kN
max. hydraulic working pressure	238 bar	315 bar	350 bar	300 bar
spec. extrusion pressure (adjustable)	410,00	410,00	350,00	608,00
effective working stroke	420,00	600,00	682,00	682,00
stroke	480,00	650,00	750,00	750,00
pressing speed (adjustable)	0-14 mm/sec	0-14 mm/sec	0-6,5 mm/sec	0-5 mm/sec
bull back speed	65 mm/sec	65 mm/sec	25 mm/sec	25 mm/sec
pre-pressing force	50 kN	50 kN	180 kN	180 kN
return force	20 kN	20 kN	20 kN	20 kN
max. hydraulic working pressure	100 bar	100 bar	160 bar	160 bar
spec. pre-pressing pressure	20 daN/cm ²	20 daN/cm ²	25 daN/cm ²	25 daN/cm ²
stroke pre-presser	850,00	850,00	1.185,00	1.185,00
stroke ejector	850,00 mm	850,00 mm	1.475,00	1.475,00
masscontainer diameter	1 x 165 mm 1 x 165 mm	1 x 165 mm 1 x 165 mm	1 x 300 mm 1 x 300 mm	1 x 300 mm 1 x 300 mm
effective filling height	420,00	600,00	680,00	680,00
volumina masscontainer capacity	2 x 9,0 ltr. 50 ltr./h	2 x 12,5 ltr. 75 ltr./h	2 x 48 ltr. 280 ltr./h	2 x 48 ltr. 250 ltr./h
turning of mass containers	manual	manual	manual	manual
tempering unit	--	--	--	--
evacuation unit	--	--	--	--
supply voltage	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz
power capacity	22 kW	22 kW	40 kW	55 kW
body material	carbon steel, various non ferrous metals			
press cylinder	inside honed, screwed cover lids			
colouring	Ral 7035 light grey			



Bowas AG für Industrieplanung
Industriestrasse 13b · CH-6300 Zug

 +41417112722

Fax +41417110817

e-mail: office@bowas.ch