Pipe extrusion – efficient and powerful

Rising prices for raw materials and energy require new ideas for pipe extrusion. WEBER have adapted to these changing conditions and offer numerous solutions for economical products. Regardless of the type of pipe – the individual production lines are energy optimised and at the same time designed for high output. This optimised ratio between energy use, capacity and quality is what makes WEBER systems so efficient.

Extrusion solutions are offered for the following types of pipe:

- PVC pipes: plain pipes, high content plain pipes, multi layer pipes, foam core pipes, corrugated pipes and double wall corrugated pipes
- Polyolefin pipes: plain pipes (single and multi layer), PEXa pipes, corrugated pipes and double wall corrugated pipes

The new DS 32 D series: Maximum performance for PVC pipe extrusion

Once again WEBER set new standards in extrusion technology. The new extruder series DS 32 D, equipped with powerful drive technology and innovative screw technology, provides new impetus for PVC pipe manufacturing.

Using great power of innovation, WEBER are able to present a generation of extruder screws that allows even more economical PVC pipe extrusion. The new screw concept features higher output, improved product quality, lower raw material costs and longer useful life of screws and barrels. These surpass the performance of the longer screw concepts which are customary on the market.

Advantages of the *High Performance* DS 32 D series

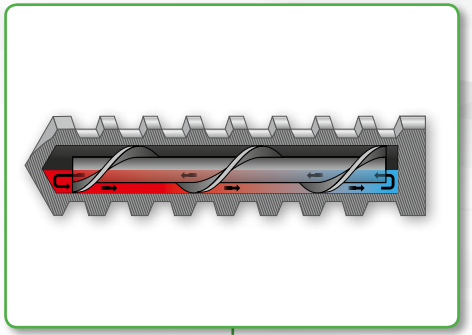
- Compact, robust gearbox technology in WEBER quality
- High outputs even with smaller L/D ratio's
- More flexible applications through larger range of output
- Easy processing of high content PVC plastics
- Improved product quality even when using recycling materials
- Processing of cold mixtures


DS 7.32 D

Parallel twin screw extruders
High Performance DS 32 D Series

Extruder	max. output PVC pipe [kg/h]*
DS 7.32	550
DS 9.32	800
DS 12.32	1,400

* when processing commercial grade PVC dry blend



Screw temperature control

WPS3

Control cabinet

Central water supply

The NE 40 D series: Maximum performance for polyolefin pipe extrusion

WEBER have been building grooved bush extruders for more than five decades. A unique *High Performance* range was developed especially for extrusion of HDPE and PP pipes. The *High Performance* NE 40 D series offers customers four powerful extruder models with screw diameters between 50 and 130 mm. The lower energy consumption has rightly earned this machine range the label „WEBER GREEN TECHNOLOGY".

WEBER GREEN TECHNOLOGY

Advantages of *High Performance* NE extruders

- Long effective life of grooved bush and processing unit through lower grooved bush pressure
- Constant output across the entire speed range
- Lower melt temperature compared to older machine concepts
- Output increase by up to 40 %
- Reduction of energy consumption
- Reduced water cooling of the grooved feed bush and new drive concept
- Torque motor optional

High Performance NE 40 D Series

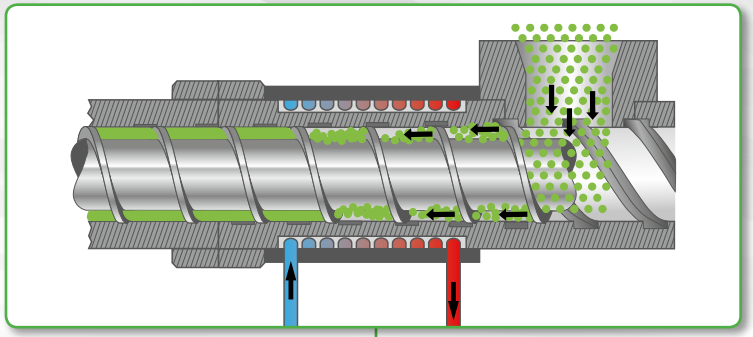
Extruder	max. output PE-HD [kg/h][1]	max. output PP [kg/h][2]
NE 5.40	350	280
NE 6.40	700	550
NE 7.40	1,100	800
NE 9.40	1,400	1,000
NE 12.40	2,000	1,450

The capacity information refer to the following reference materials:
1 PE 100: BOREALIS HE 3490 LS
INEOS Eltex TUB 121
BASELL CRP 100
2 PP: BOREALIS BA 212 E
BOREALIS BA 202 E

Pipe extrusion

WPS3

Central water supply



Spiral groove bush

Optional: Torque motor

Classic Line: Proven extruder models with competitive pricing

This range of machines has the theme: Always looking for technical advances while holding onto proven concepts

The *Classic Line* includes extruder types which have been used successfully for many years. Despite having introduced new machines, WEBER will continue to offer these classic models for customers worldwide. And there are many good reasons for this, including logistics and compatibility with existing equipment.

The standardised configuration of the extruders from the *Classic Line* means they have an attractive cost price.

Advantages of the WEBER-*Classic Line*

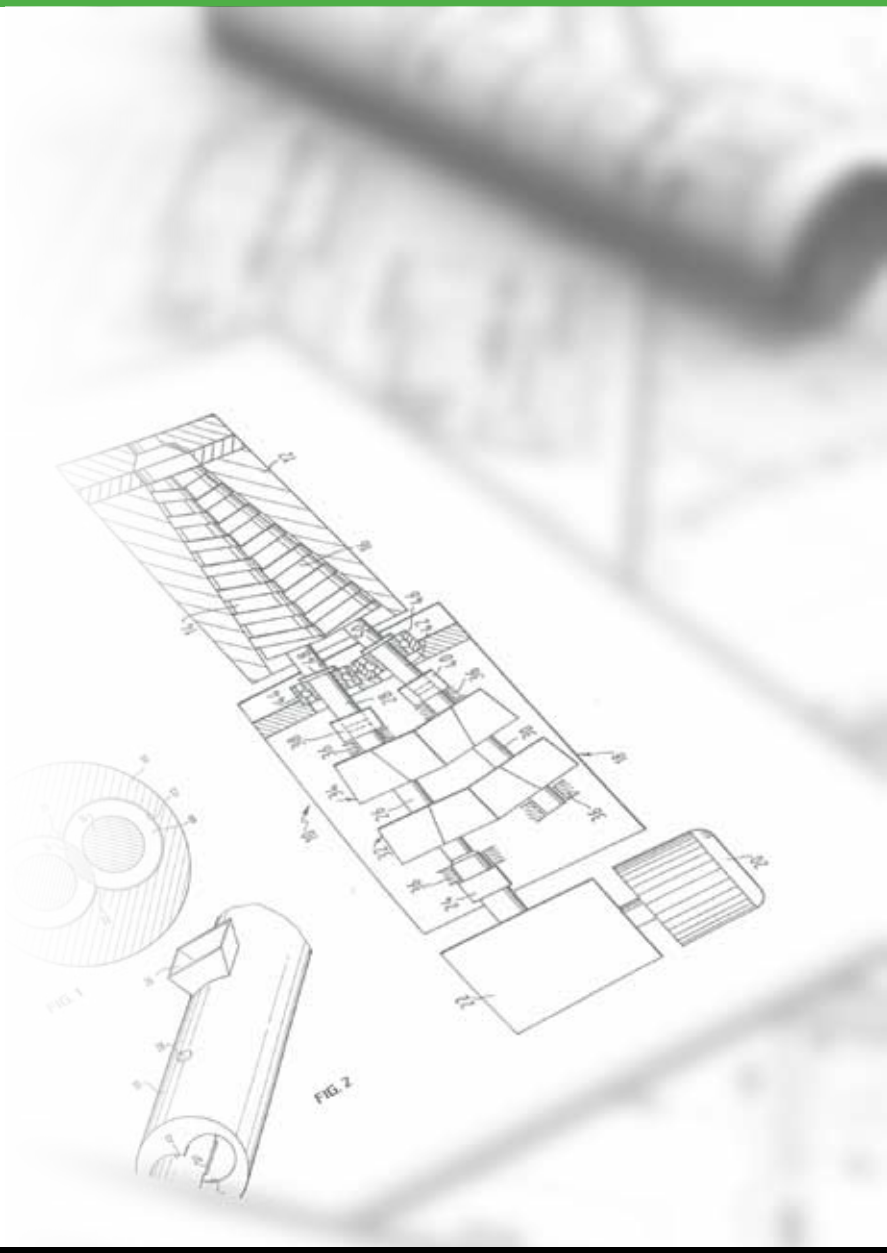
- Direct replacement for existing WEBER extruders
- Standardised machine concept
- Proven extruder technology
- WEBER quality, made in Germany

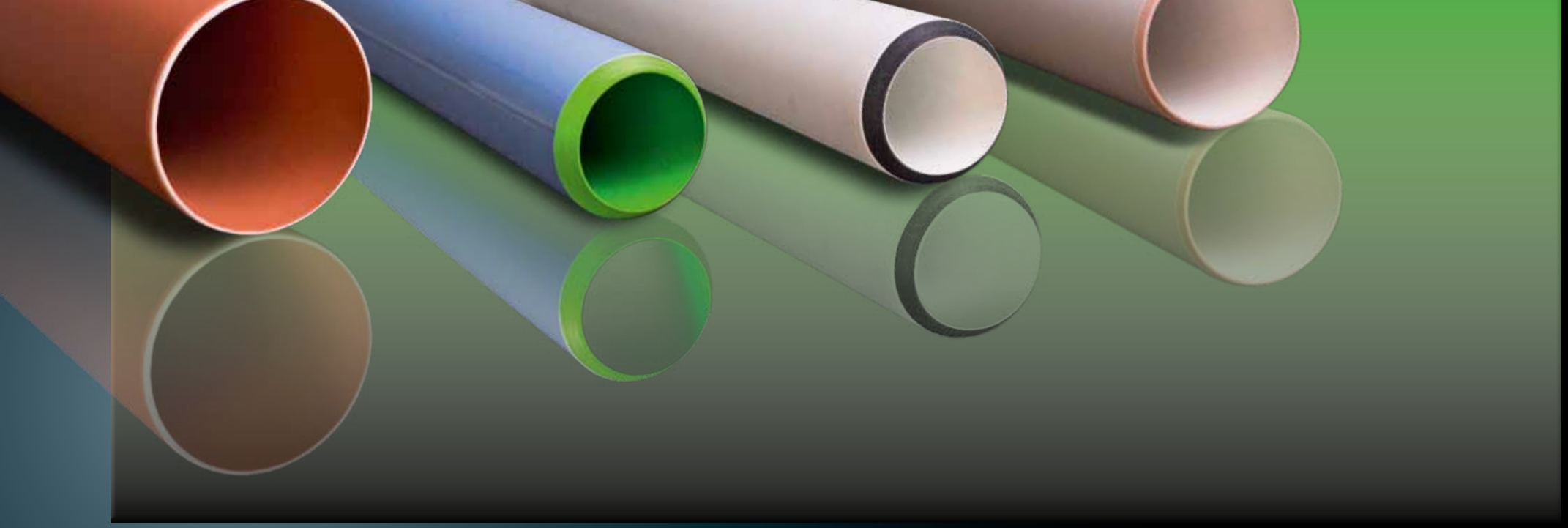
Classic Line Pipe Series

Extruder	max. output PVC pipe [kg/h]*
DS 72.22	240
DS 9.25	450
DS 11.27	850
DS 12.28	1,000
DS 13.27	1,100
DS 15.22	1,800

Extruder	max. output PVC pipe [kg/h]
CE 5.2	100
CE 7.2	250
CE 8.2	300

* bei Verarbeitung von handelsüblichem PVC-Dryblend





Clever extruding – pipe heads from WEBER

Many pipe suppliers are under great pricing pressure today. Innovative solutions are required for surviving on the market. Double wall corrugated pipes are more than just a good alternative.

The new PVC foam core pipe or the newly developed WECOP®, the energy saving pipe from WEBER, already allow manufacturers to save up to 30 % material. This improves economic efficiency as well as the ecological balance sheet. Pipes with a high filler content in the core layer or PO pipes with functional layers expand the possible applications in the market. For all of these applications WEBER offers the optimum pipe heads for solid wall, double wall or multi-layer pipes.

Feedblock FBL 2 for single and double wall corrugated PVC pipes

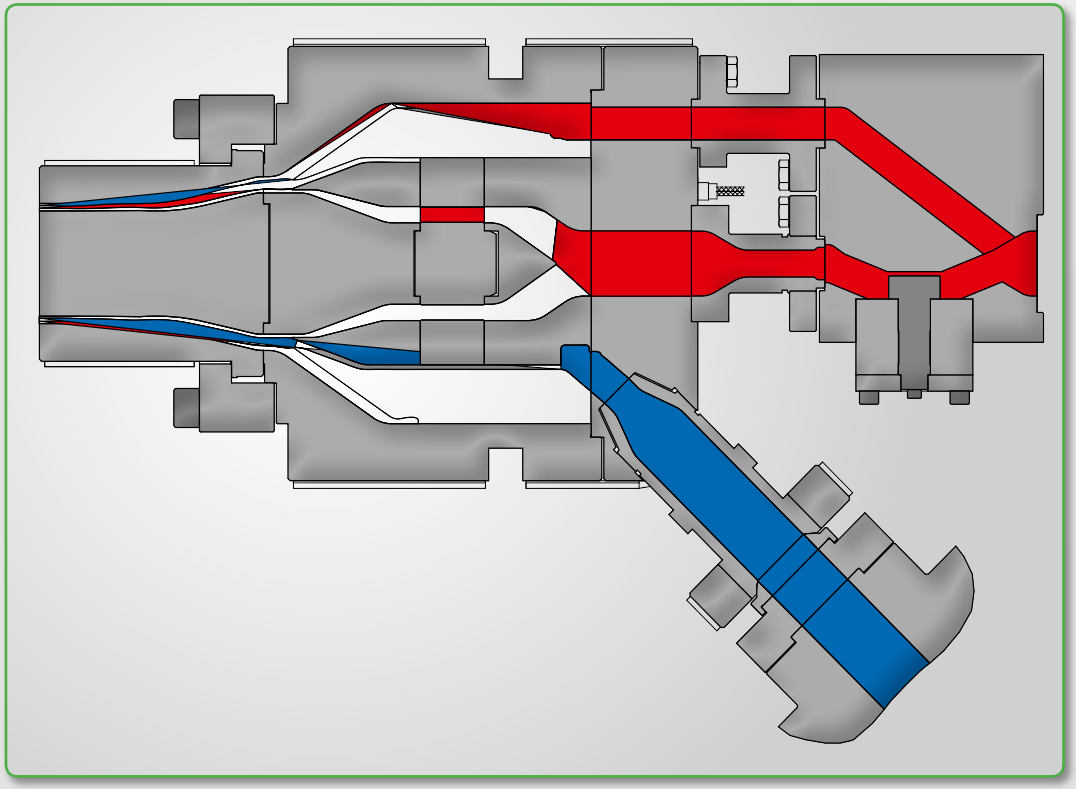
The core element of double wall corrugated PVC pipes is always the WEBER Feedblock which has successfully prevailed on the market for over ten years.

Constant optimisation and further development of the technology have made the current FBL 2 better than ever: Output capacities of up to 1,000 kg/h and pipe diameters of up to 200 mm can be extruded directly from the FBL 2 without an additional pipe head.

WEBER provides customers with individual advice regarding suitable machine combinations.

Advantages of the WEBER Feedblock

- Very good wall thickness distribution
- High process reliability
- Very easy handling and short set-up times
- Min. pipe meter weights possible despite of high share of chalk
- Universal application for different plastics (ABS, HDPE, PP)
- Space saving extruder arrangement



Feedblock FBL 2

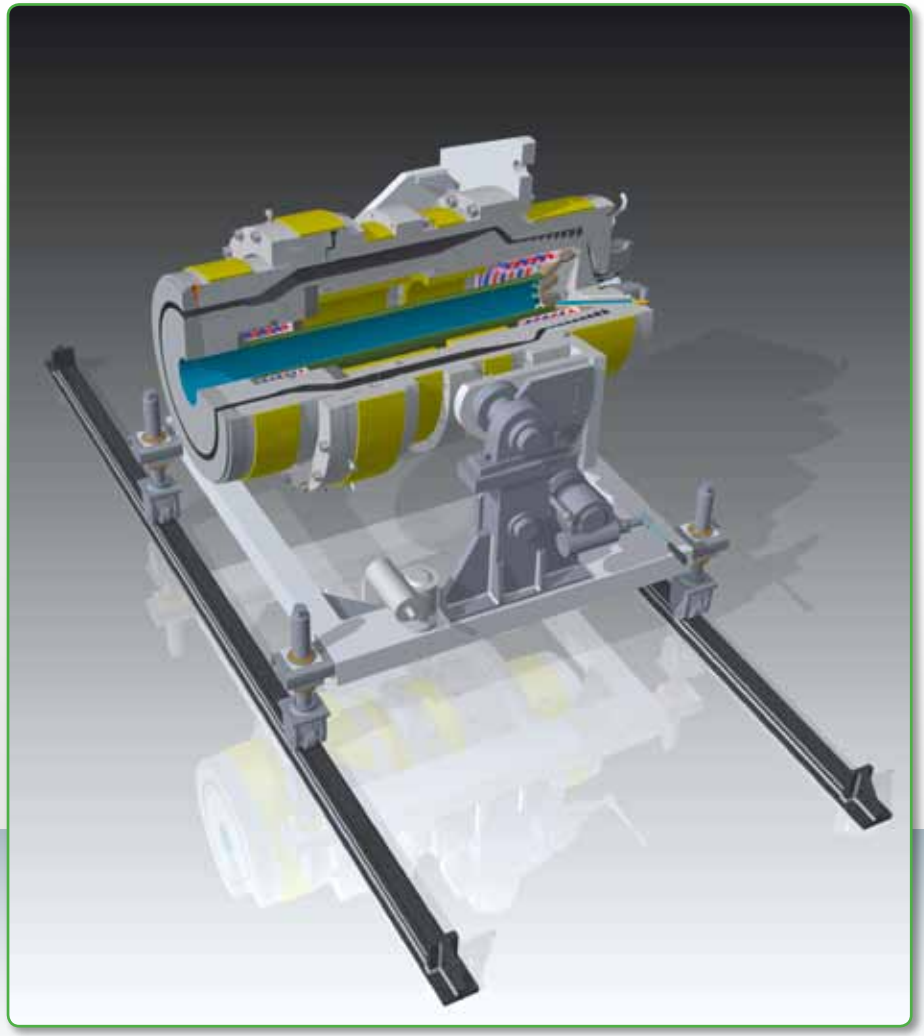
PKM pipe heads for PO single and double wall corrugated pipes

WEBER pipe heads get pipes in shape. The pipe head is an essential element in the pipe production line. It plays a crucial role in the manufacturing of high quality products with excellent properties.

This is why WEBER have updated the pipe head series PKM to the latest state of the art. The extrusion specialist meets the current requirements of the market place, for any pipe diameter from 20 to 800 mm – bigger Ø on request.

Advantages of WEBER PKM heads

- Good wall thickness distribution through rheologically optimised flow channels
- High flow rate capacities
- Shorter conversion times for size changes
- Internal pipe head water cooling reduces the sagging effect for pipes with thick walls
- Piped air cooling, cools from the inside and reduces the cooling path length
- Low shearing forces acting on the material



Pipe head with internal cooling

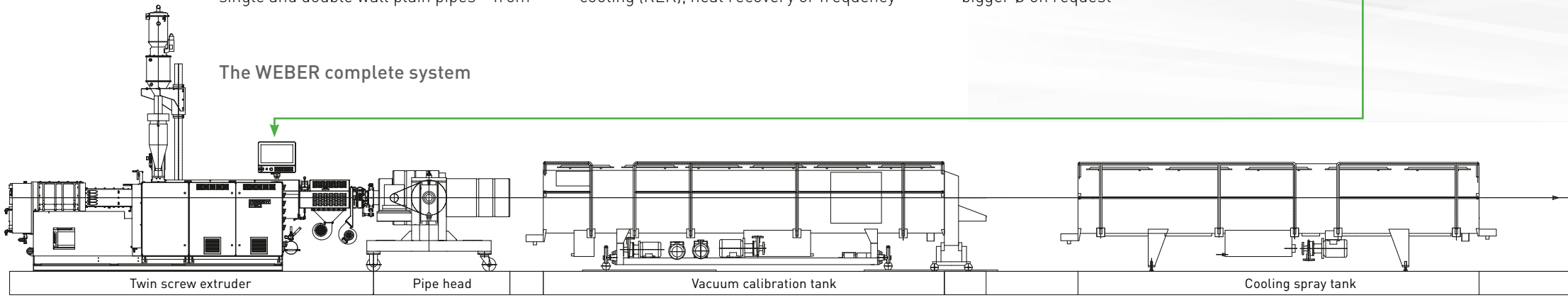
WEBER pipe systems: Everything from one supplier

WEBER complete systems for manufacturing PVC and PO pipes are the ideal combination of productivity and top energy efficiency. Customers receive comprehensive solutions for manufacturing single and double wall plain pipes – from extruders to sizing, especially customised for individual requirements.

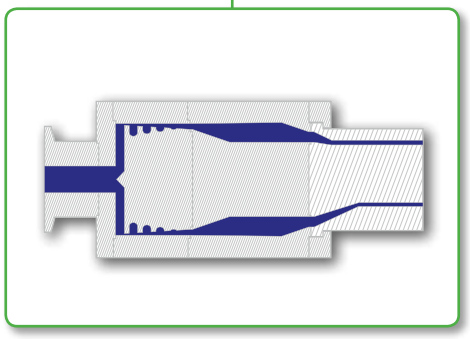
The focus of the extrusion process is always on economic efficiency. Internal pipe cooling (RLK), heat recovery or frequency controlled vacuum pumps are just a few of the features of a modern extrusion line.

- PVC pipe up to 600 mm diameter
- HDPE pipe up to 800 mm diameter – bigger Ø on request

The WEBER complete system



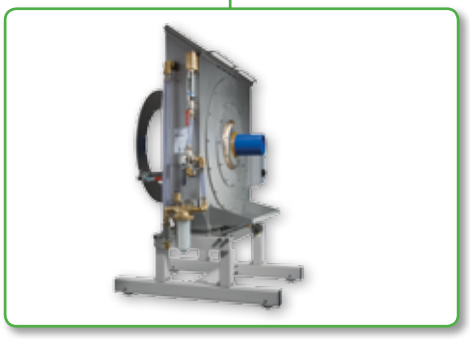
PO pipe head PK



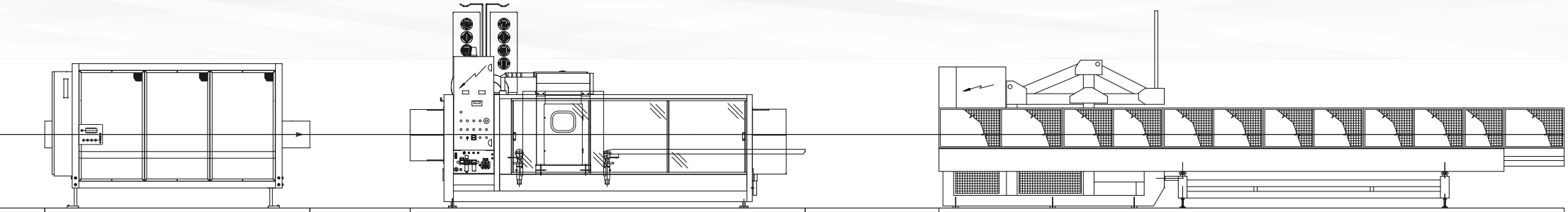
Calibration and spraying

Frequency controlled vacuum pumps

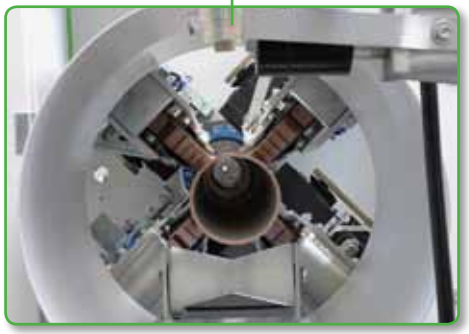
Ultrasound



Pipe extrusion



Bead haul-off



Saw

Muffle station

Extrusion of corrugated pipes and double wall corrugated pipes

Pipes with structured walls are very interesting economically as they are produced with reduced amounts of material. In cooperation with renowned manufacturers of corrugated pipe forming machines, WEBER supply the matching extruders for PVC as well as for PE and PP corrugated and double wall corrugated pipes.

Advantages of WEBER double wall corrugated pipe lines (co-extrusion)

- Low friction, floating suspension as a customised solution for balancing thermal expansions
- Optional screw removal from the back for cleaning and inspection without having to remove the injection head and the corrugated pipe forming machine
- The entire extruder system is controlled by the newly developed computer control WPS3

Option: screw removal from the back

Floating suspension, height adjustable

Recommended extruder combination for PO double wall corrugated pipe production lines

Extruder for outer corrugated wall	Extruder for plain inner wall	max. output PE-HD [kg/h]
High Performance NE 6.40	*High Performance* NE 5.40	850
High Performance NE 7.40	*High Performance* NE 6.40	1,450
High Performance NE 9.40	*High Performance* NE 6.40	1,700