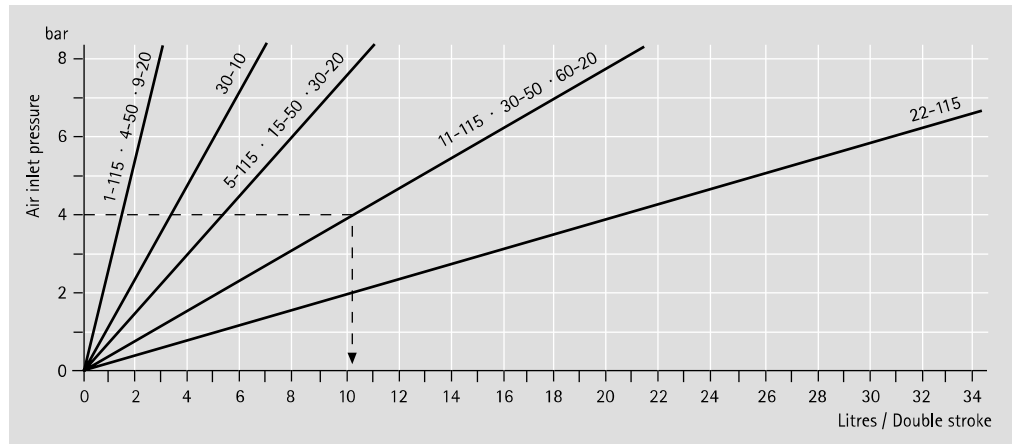


**Piston pumps**

The pneumatically driven Krautzberger piston pump sucks the coating substance from the material container through a suction hose or a suction pipe and subjects it to pressure. When it leaves the spray gun, the medium is atomised through a special nozzle by the high pressure. The hydraulic piston is a differential piston and moves up and down in the working cylinder of the hydraulic section.

During the upward stroke, the ball of the suction valve and the coating medium is sucked into the lower chamber of the working cylinder. At the same time, the ball of the pressure valve in the piston is pressed onto its seat and the medium displaced from the upper ring chamber of the working cylinder into the pressure line. During the downward stroke, the ball of the suction valve is pressed onto its seat and the ball of the pressure valve moves upward. The piston displaces half of the medium from the lower chamber of the working cylinder into the upper chamber and the other half into the pressure line. The piston rod of the air piston motor is connected to the pump piston and transmits the motion in a linear fashion. The piston motion is generated by the alternating feed of compressed air to the air motor piston and controlled by a four-way air valve. As long as compressed air is fed into the control section via the pressure reducing valve, the thrust piston motor continues to operate until the pump has built up a sufficient hydraulic pressure in the pressure line to counterbalance the thrust of the incoming compressed air. The pump then remains in quiescent position until the hydraulic pressure begins to fall as a result, for example, of operation of the spray gun. The pump then continues to pump



Example:  
 Pump type: ..... 30 – 50  
 Air inlet pressure: ..... 4 bar  
 Air consumption/Double stroke: ..... 10.2 litres

Piston pumps								
Type	Applications	Theoretical transmission ratios	Delivery volume per double stroke	Max. recommended double strokes	Max. air inlet pressure in bar	max. operating pressure in bar	max. recommended spraying rate l/min. <sup>2)</sup>	max. delivery volume l/min. <sup>1)</sup>
per minute								
30 - 10	Airless / Duo	30 : 1	20 ccm	50	8 bar	240 bar	1,0 l	2,0 l
9 - 20	ND Airless / Duo	9 : 1	40 ccm	50	8 bar	72 bar	2,0 l	4,0 l
30 - 20	Airless / Duo	30 : 1	40 ccm	50	8 bar	240 bar	2,0 l	4,0 l
60 - 20	Airless	60 : 1	40 ccm	50	8 bar	480 bar	2,0 l	4,0 l
4 - 50	Low-pressure Airless	4 : 1	100 ccm	50	8 bar	32 bar	5,0 l	10,0 l
15 - 50	Airless / Duo / Hot	15 : 1	100 ccm	50	8 bar	120 bar	5,0 l	10,0 l
30 - 50	Airless / Duo / Hot	30 : 1	100 ccm	50	8 bar	240 bar	5,0 l	10,0 l
Mordant	Low-pressure Airless	4 : 1	100 ccm	50	8 bar	32 bar	5,0 l	10,0 l
1 - 115	Material feed	1,5 : 1	230 ccm	50	6 bar	9 bar	11,5 l	23,0 l
5 - 115	Low-pressure Airless / Material feed	5 : 1	230 ccm	50	6 bar	30 bar	11,5 l	23,0 l
11 - 115	Airless / Duo / Hot	11 : 1	230 ccm	50	6 bar	66 bar	11,5 l	23,0 l
22 - 115	Airless / Duo / Hot	22 : 1	230 ccm	50	6 bar	132 bar	11,5 l	23,0 l

<sup>1)</sup> measured at 100 double strokes/minute <sup>2)</sup> measured at 50 double strokes/minute

and maintains the dynamic equilibrium between air pressure and hydraulic pressure. The selected nozzle size and the set spraying pressure determine the stroke rate (strokes per minute) and the air consumption and thus also the spraying capacity of the pump. All pump components in contact with the medium are made of high-grade stainless steel.