

# DUT KOREA

Solution for Polyurethane

Light Weight Pump for High Pressure Foaming Machine  
**HIGH PRESSURE METERING PUMP**



**DUT**  
Solution for Polyurethane

DUT Korea is a leading company as manufacturer & specialist in the field of High Pressure PU Solution including Foaming Machine, Mixing Head, Metering Pump and all kinds of Applications in worldwide.

## DUT KOREA

DUT has established in 1992 and became a leading company as manufacturer & specialist in field of High Pressure PU Solutions including Injection Machine, Mixing Head, Metering Pump and all kinds of PU Applications in Korea.

DUT started PU business with high quality of Mixing Head which is core of PU technology then expanded to all the PU applications. DUT's market share of this field is getting bigger year by year and customer's feedback of satisfaction for the DUT's quality and services makes next orders.

In addition, DUT acquired PCT world patent for “**Mixing Head of Double Tilted Injection**” which shows superior mixing quality, splash-free pouring & laminar flow. It is the reason why we are on the world top position on the field of Mixing Head. Specialists of Mixing Head who has been working for more than 20 years are always considering how to make DUT's better Mixing Head and R&D center is always focused on customer's needs.

## Solution for Polyurethane

Our slogan is “**Solution for Polyurethane**”. It means we do not just sell the product but care of products until customer's satisfaction. Our technology of Polyurethane is started from customer's need and finished to their satisfaction.

## Huge Sales Network

**Sales Department has huge international network for 56 countries** including USA, Germany, Italy, UK, Poland, Hungary, Egypt, China, Mexico, Japan, India, Iran, Thailand, New Zealand, Brazil, and so on, so customers are able to easy order by the DUT's network.



# DUT KOREA 's High Pressure Metering Pump is perfectly linked with your application

High Pressure Metering Pump, DMP is applied DUT KOREA's innovative technology with perfect compatibility from previous models and stable shipment gives you to help building your polyurethane machine on time.

## Compatibility

'DMP' gives you perfect compatibility with your previous models.

## Light weight

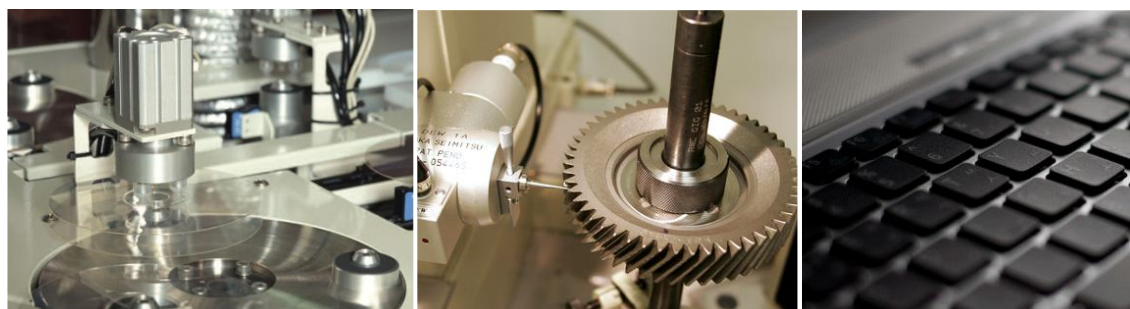
Using 'Duralumin' case and Simplification of parts inside of 'DMP' make amazing lightweight to help metering for operators

## Maintenance

Simplification of 'DMP' gives operators to help easy maintenance and repair.

## Economical Price

DUT offers special price for 'DMP' pump as previous models.



# C<sub>ontents</sub>

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OPERATING PRESSURE RANGE

MA MANUAL CONTROL

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DIMENSION OF METERING PUMP  
(12, 28, 55, 107cc)

ODERING CODE

# INTRODUCTION OF METERING PUMP

Light weight pump for high pressure foaming machine



DUT's new developed pump 'DMP' is type of 'Axial Piston Variable Displacement' and it designed to improve the weaknesses from the previous metering pump with perfect compatibility from previous models and weight lightening has applied by using duralumin case.

Also simplification for components inside of the pump made even much lighter, so integrators can be maintained and replaced easily.

And the other point is that previous screws for 'Mechanical Adjusting Gear' have replaced by 'Fine Pitch', so operators can exact adjusting for outputs.

## SPECIFICATION

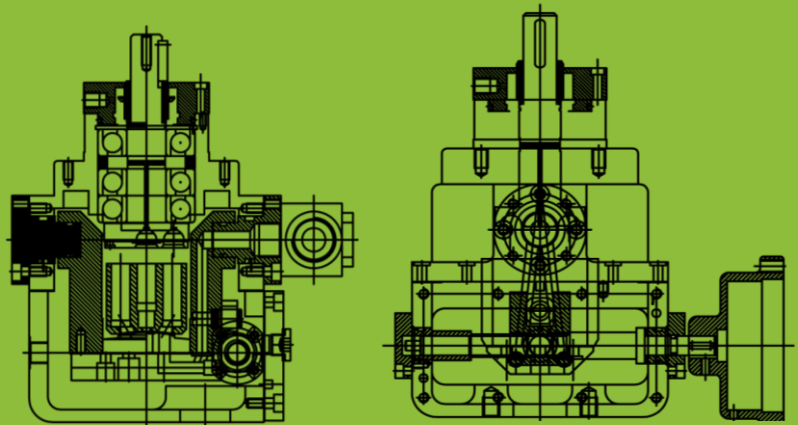
Model			DMP 6	DMP 12	DMP 28	DMP 55	DMP 107
Displacement Vg max		cm <sup>3</sup>	5.8	11.6	28.1	54.8	107
Flow Qmax In Open circuit and at speed (At a viscosity of $\nu=36\text{mm}^2/\text{s}$ )	n = 735rpm	l/min	4.4	8.3	20	39	76
	n = 970rpm	l/min	5.8	10.9	26	51	100
	n = 1,450rpm	l/min	8.7	16.3	39	77	150
Power at $\Delta p = 220\text{bar}$ and speed	n = 735rpm	kW	1.4	3	7.2	14	27.3
	n = 970rpm	kW	1.8	3.9	9.3	18.3	35.9
	n = 1,450rpm	kW	2.8	5.9	14	27.6	53.9

## DESIGN

- Optimized design for DUT's High Pressure Foaming System
- To prevent flowing backward, it is controlled by actuator (Not by Hydraulic)
- Semi-permanent product life by super-precision machine
- Fast high pressure building time by air actuator

## FEATURES

- High metering accuracy and repeatability
- Operating pressure up to 220bar
- Very little pulsation of flow
- Quite operation
- Optimum volumetric available
- Low suction pressure, even when pumping highly viscosity materials
- It can be used all parts together with Rexroth A2VK pumps.
- Manual control via hand wheel with built-in- precision measuring scale or alternative mechanical rod control, for mounting pneumatic or hydraulic control cylinders



## DIRECTION OF FLOW

Swivel Direction	Clockwise Open circuit	Rotation	Anti-Clockwise Open circuit	Rotation Closed circuit
Clockwise	S to A A plugged	A to B	S to A B plugged	B to A
Anti-Clockwise	S to A	B to A B plugged	S to A	A to B A plugged



## OPERATING PRESSURE RANGE – INLET SIDE

### OPEN CIRCUIT:

Pre pressure 1~3bar absolute at section port S

### CLOSED CIRCUIT:

Sum of combined pressure at A and B  $\leq$  250 bar (315 bar for short period), fit leakage at port T

## OPERATING PRESSURE RANGE – OUTLET

### Pressure at port A or B

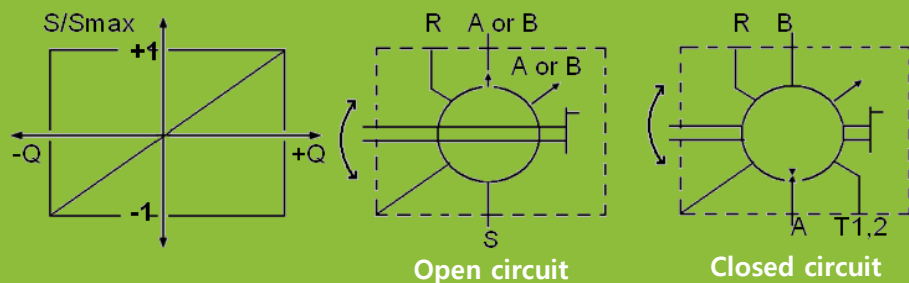
Nominal pressure -----Pn = 250bar

Peak pressure -----Pmax = 315bar

(Pressure data to DIN 24312)

### ▪ MA Manual Control

By turning hand wheel, the pump swivel body and thus the displacement or output flow is infinitely varied within the range Q0 to Qmax via a self-locking added spindle.



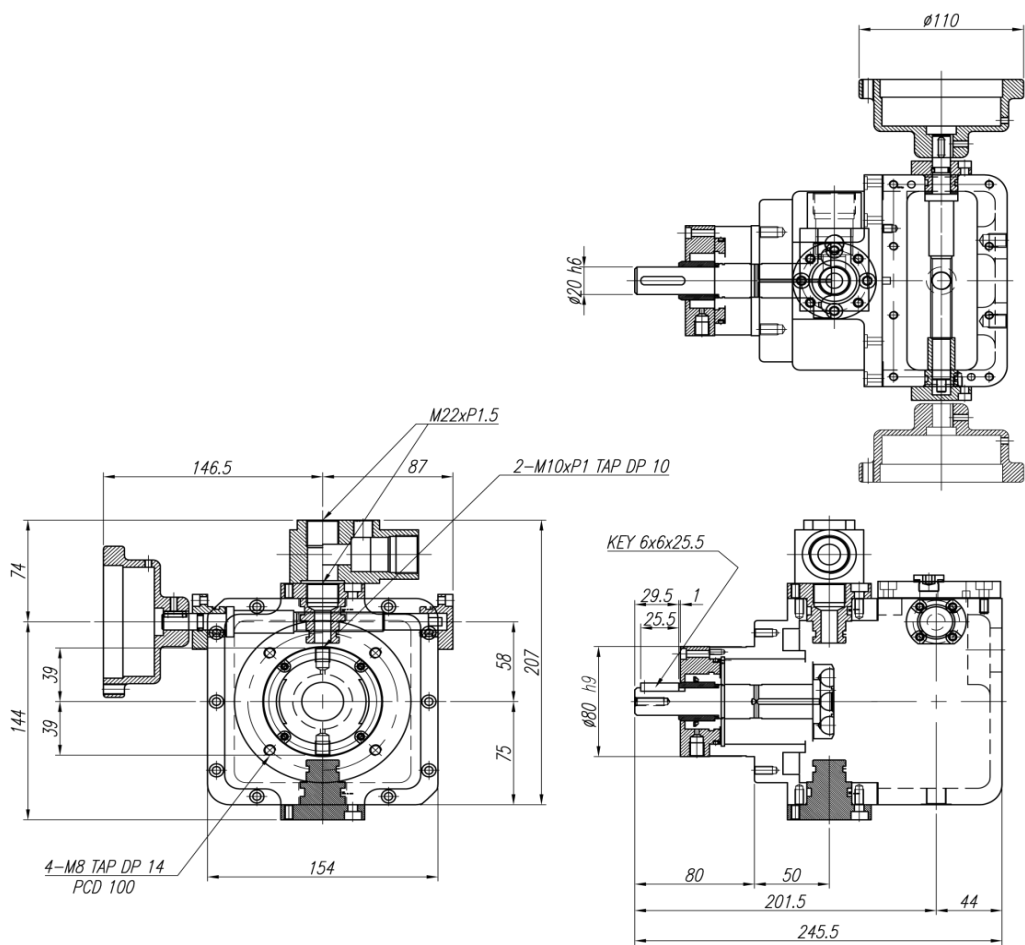
## TABLE OF VALUE

Specification		DMP12	DMP28	DMP55	DMP107
Rotations of hand wheel V go to Vg max	Us	10.6	12.7	16	13.4
Max operating force on hand wheel	Kp	7	7	8	12
Pumps weight (Approx)	Kg	11	19	35	64

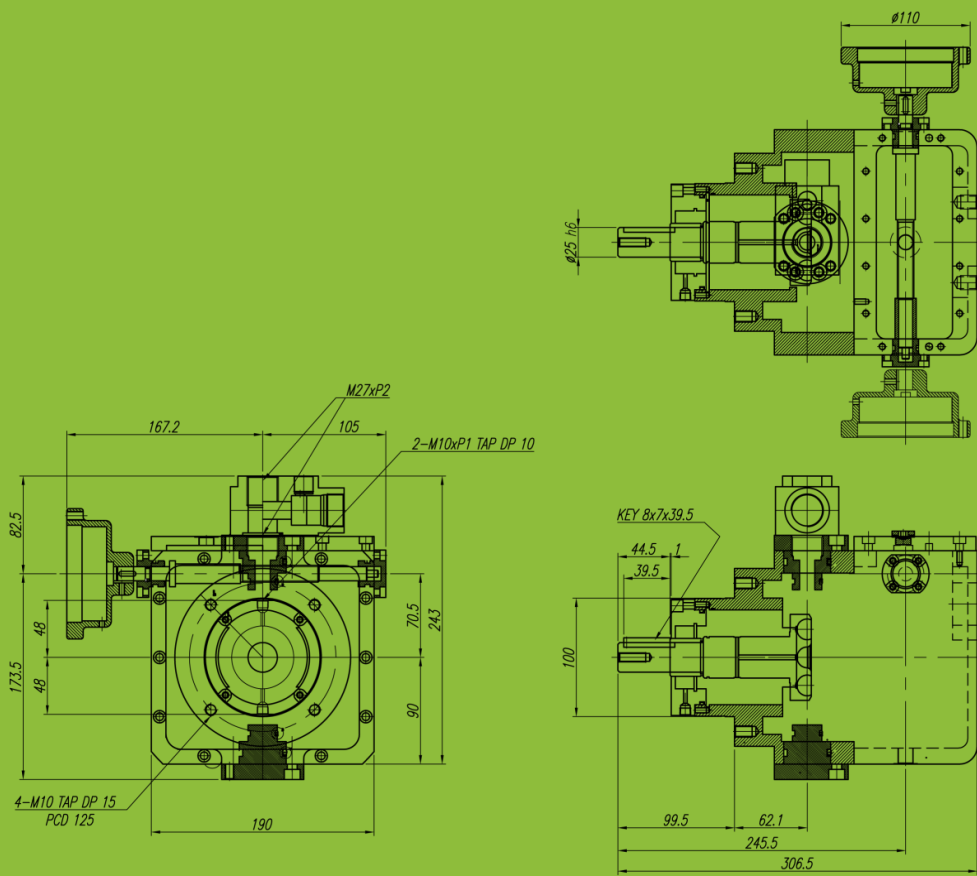
# DIMENSIONS OF METERING PUMP

(12cc, 28cc, 55cc, 107cc)

## DMP 12cc



## DMP 28cc

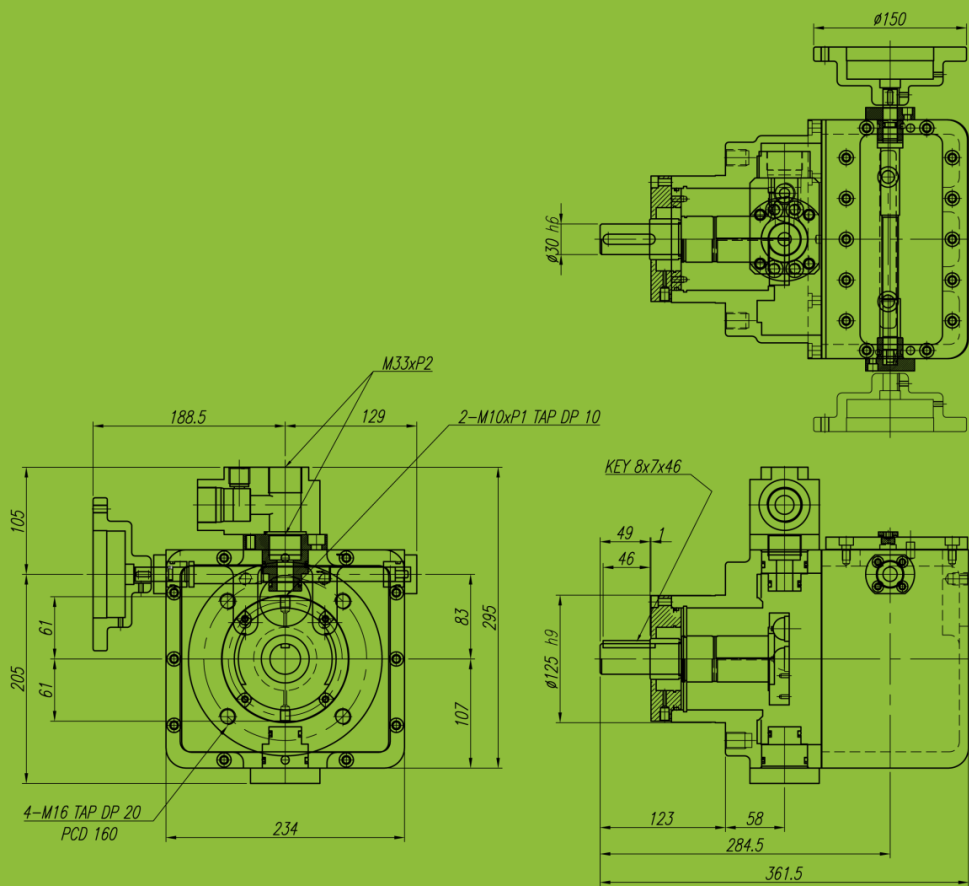




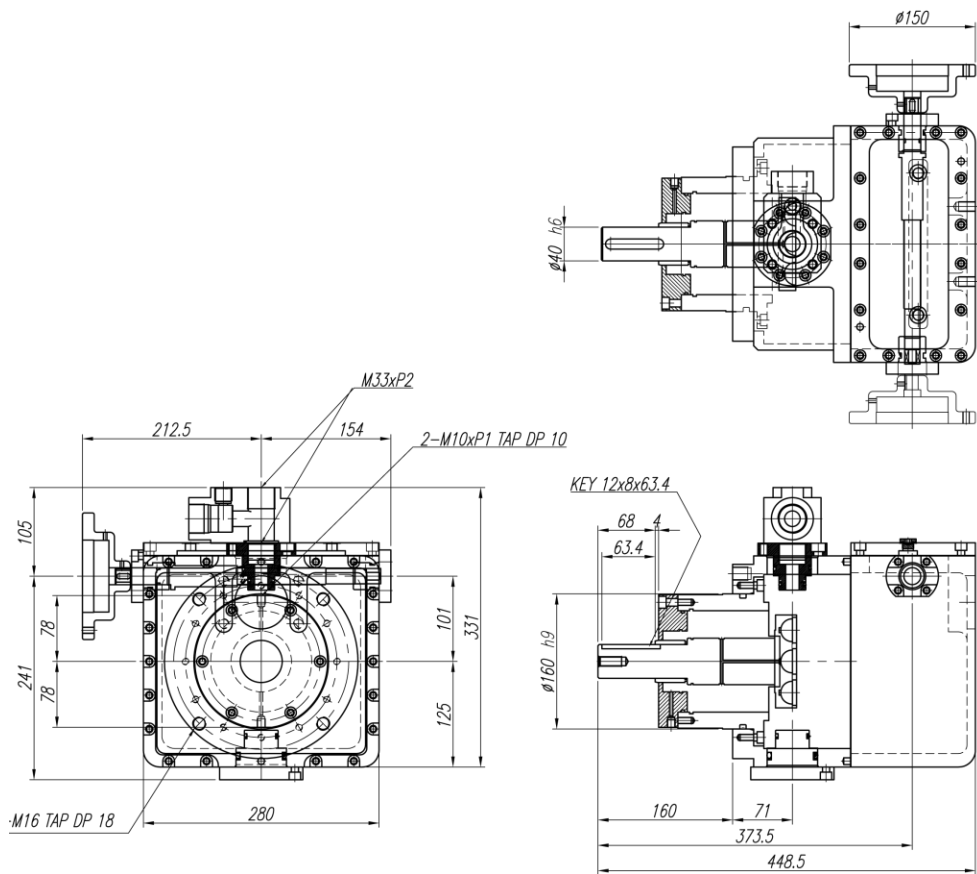
# DIMENSIONS OF METERING PUMP

(12cc, 28cc, 55cc, 107cc)

## DMP 55cc



## DMP 107cc



# ORDERING CODE

<b>DMP</b>		<b>12</b>	<b>MA</b>	<b>0</b>	<b>R</b>	<b>P</b>	<b>1</b>
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<b>Pump Types</b> <div>DMP</div> <b>Size</b> <div>11.6cm<sup>3</sup>    <b>12</b></div> <div>28.1cm<sup>3</sup>    <b>28</b></div> <div>54.8cm<sup>3</sup>    <b>55</b></div> <div>107cm<sup>3</sup>    <b>107</b></div> <b>Control device</b> <small>(only permits manual control)</small> <div>Manual control    <b>MA</b></div> <b>Type of circuit</b> <div>Open type    <b>0</b></div> <div>Closed type    <b>G</b></div>	<b>Direction of hand wheel</b> <div><b>1</b> Hand wheel in left side</div> <div><b>2</b> Hand wheel in right side <small>(View on drive shaft)</small></div> <b>Shaft end</b> <div>Parallel Keyed    <b>P</b></div> <div>Parallel Keyed (Lengthens)    <b>PL</b></div> <b>Direction of rotation</b> <small>(View on drive shaft)</small> <div>Clockwise    <b>R</b></div> <div>Anti-Clockwise    <b>L</b></div>
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**If customer place order of DMP12MAORP1-SO2.**

- Pump type : DMP 12
- Manual control : MA
- Open type circuit : 0
- Clockwise rotation : R
- Parallel Keyed : P
- Hand wheel in left side : 1
- Anticorrosive version : SO2

(It has perfect compatibility with the pump 'A2VK' from Rexroth.)

## Quality Control

DUT has committed total quality control section for continuous improvement activity and will do our best step by step with providing high quality products based on measure equipment and reliability equipment.

## R&D Team (Research and Development)

DUT's R&D Center have skilled researchers who specialists in the field of polyurethane and they are focused on only our customer's needs, so the center applies their needs for the new products. DUT's R&D center is totally set by customers.

## Q/A Team (Quality Assurance)

Q/A Team is being worked for 24 hours to process customer's problem. And all the problem data from customers are stored in DUT's database so Q/A team can deal with problem of product quickly.

## Production Team

DUT have skilled mechanics who is being worked in this field over 20 years so they have a lot of tips to apply our technologies by technical equipments(Such as CNC and MCT).

Tel. +82512020586

Fax +82512020647

www.dutkorea.com

webmaster@dutkorea.com