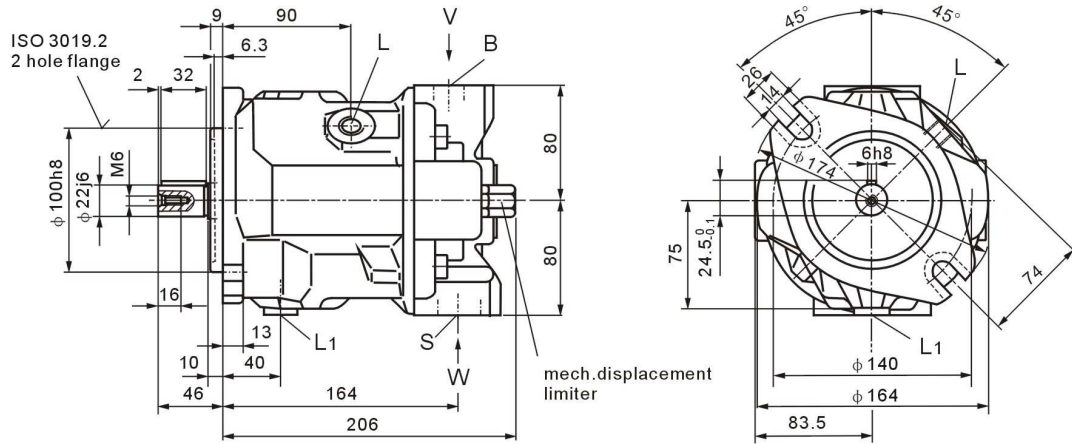


# Installation Dimensions

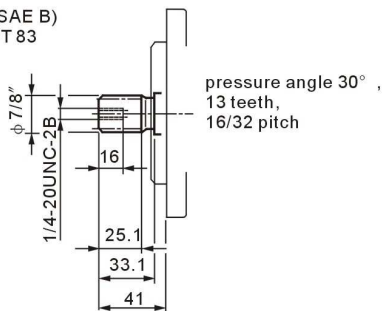
HA10VSO28※/31※-※A12N00(without control valves)

## Shaft P

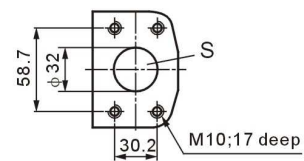


## Shaft S

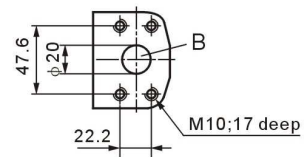
Shaft 22-4; (SAE B)  
SAE J744 OCT 83



### View W

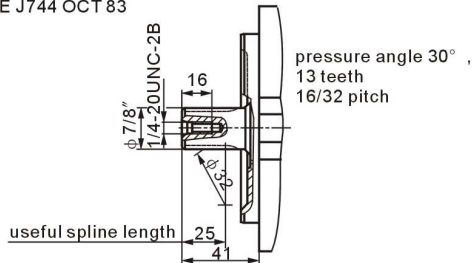


### View V



## Shaft R

Shaft 22-4; (SAE B)  
SAE J744 OCT 83



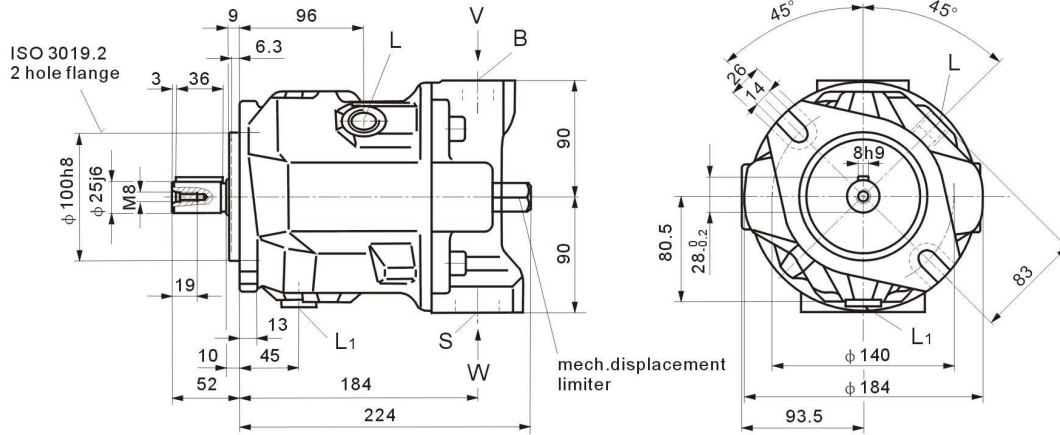
B	Pressure port	SAE 3/4"	(Standard pressure range)
S	Suction port	SAE 1 1/4"	(Standard pressure range)
L/L <sub>1</sub>	Case drain ports	M18 × 1.5	(L <sub>1</sub> plugged at factory)

HA10VSO...

# Installation Dimensions

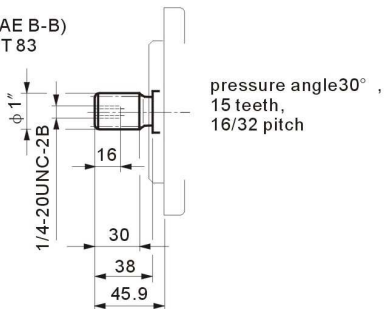
HA10VSO45※/31※-※A12N00(without control valves)

## Shaft P

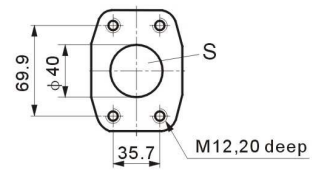


## Shaft S

Shaft 25-4;(SAE B-B)  
SAE J744 OCT 83

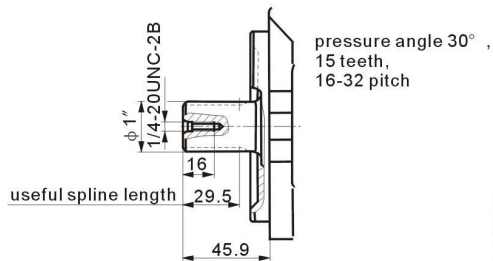


View W

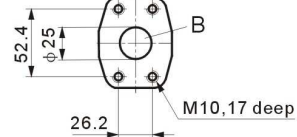


## Shaft R

Shaft 25-4;(SAE B-B)  
SAE J744 OCT 83



View V

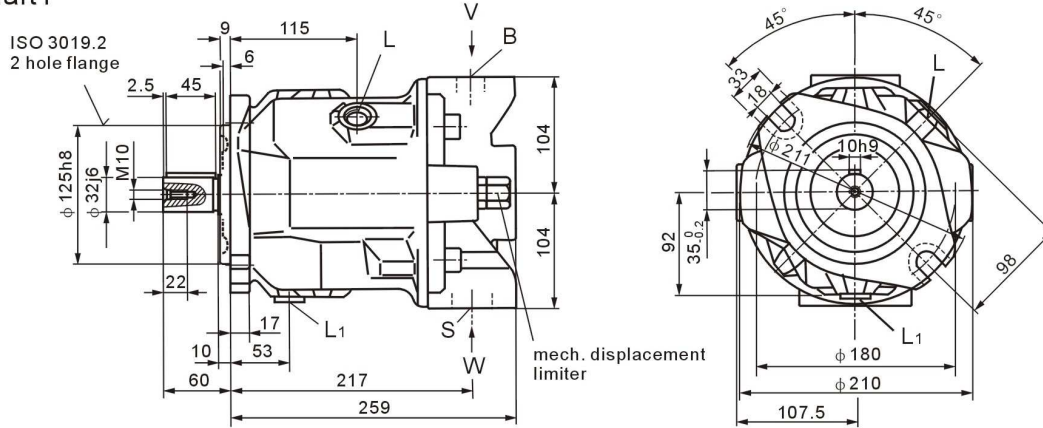


B	Pressure port	SAE 1"	(Standard pressure range)
S	Suction port	SAE 1 1/2"	(Standard pressure range)
L/L <sub>1</sub>	Case drain ports	M22 × 1.5	(L <sub>1</sub> plugged factory)

# Installation Dimensions

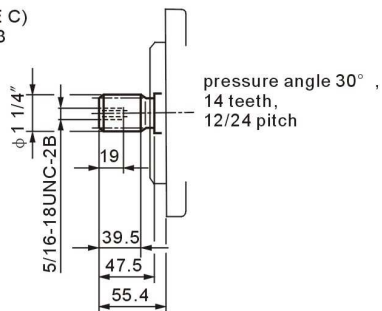
HA10VSO71\*/31\*/A12N00(without control valves)

## Shaft P

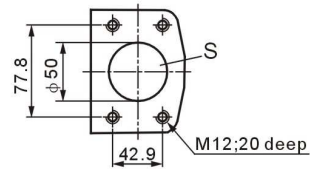


## Shaft S

Shaft 32-4; (SAE C)  
SAE J744 OCT 83

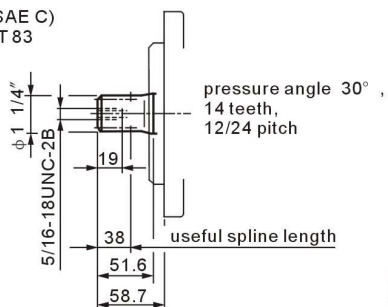


### View W

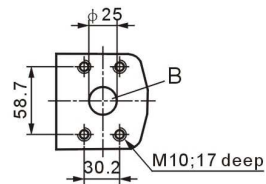


## Shaft R

Shaft 32-4; (SAE C)  
SAE J744 OCT 83



### View V

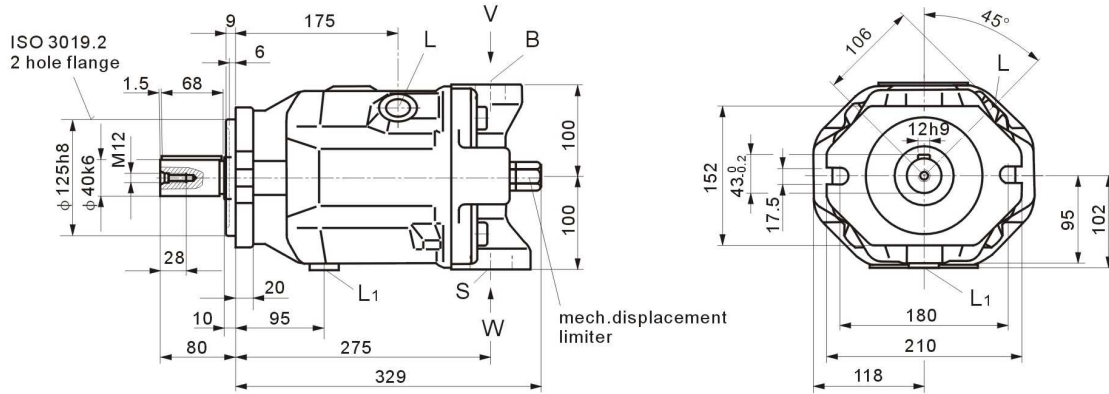


B	Pressure port	SAE 1"	(Standard pressure range)
S	Suction port	SAE 2"	(Standard pressure range)
L/L <sub>1</sub>	Case drain ports	M22 × 1.5	(L <sub>1</sub> plugged at factory)

# Installation Dimensions

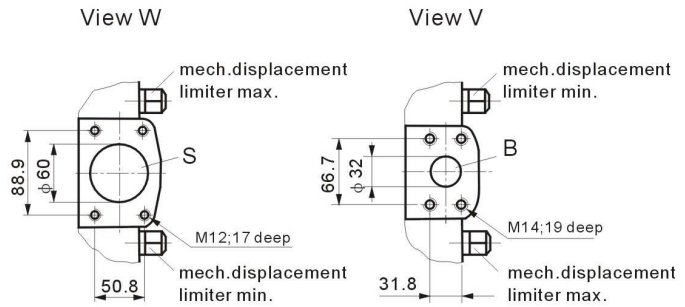
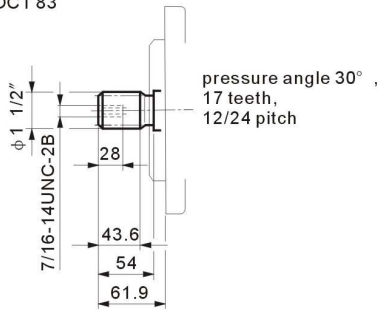
HA10VSO100※/31※-※A12N00(without control valves)

## Shaft P



## Shaft S

Shaft 38-4;(SAE C-C)  
SAE J744 OCT 83

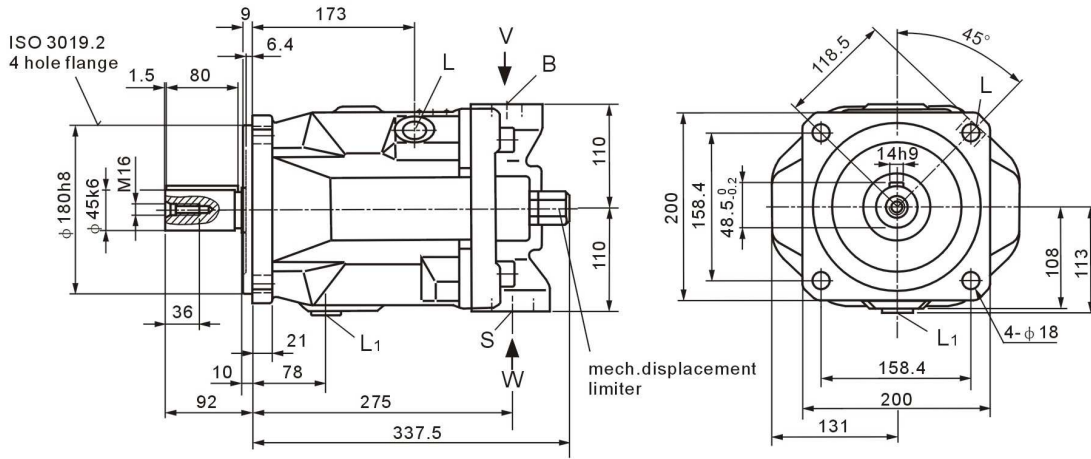


B	Pressure port	SAE 1 1/4"	(High pressure range)
S	Suction port	SAE 2 1/2"	(Standard pressure range)
L/L <sub>1</sub>	Case drain ports	M27 × 2	(L <sub>1</sub> plugged at factory)

# Installation Dimensions

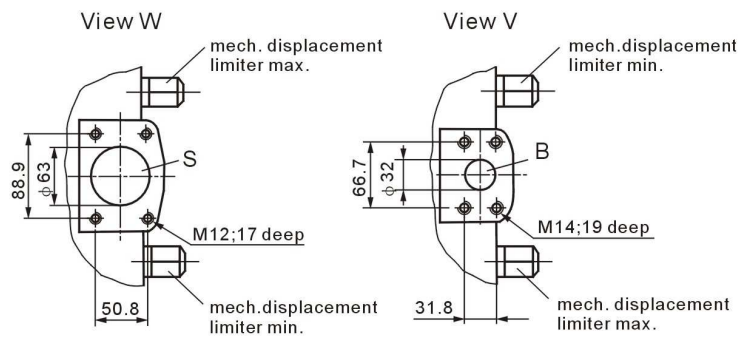
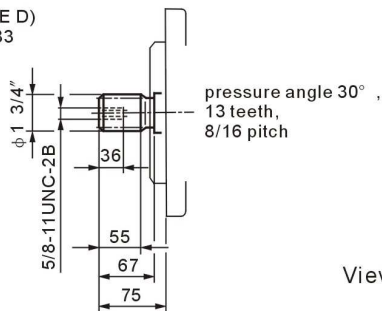
HA10VSO140※/31※-※A12N00(without control valves)

## Shaft P



## Shaft S

Shaft 44-4; (SAE D)  
SAE J744 OCT 83



B	Pressure port	SAE 1 1/4"	(High pressure range)
S	Suction port	SAE 2 1/2"	(Standard pressure range)
L/L <sub>1</sub>	Case drain port	M27 × 2	(L <sub>1</sub> plugged at factory)