

Caution in use

- Perform complete air bleeding of the circuit when using couplers under pressure type. Insufficient air bleeding may cause the oil spill when connecting or circuit pressure drop.
- Do not connect the couplers with metal chips or coolant on the tip of it. Perform air blow to clean it off if there is a risk of adherence.
- Provide complete flushing to the oil pass of the manifold block to avoid contamination of the burrs or debris in the circuit. Failure of this instruction may cause damage of seals and result in the oil leakage because all models of coupler does not have preventive filters to protect contamination from oil supply side.
- Set coupling force to be same or more than reactive force of each model. Reactive force remains active until coupler has been totally disconnected.
- Provide the guide pin separately because coupler does not contain a guide or stopper block.
- Do not mount the couplers on the place where coolant oil builds up.

**Reactive force calculation example**

Piping specification

Hydraulic pressure	Two double acting clamp circuits (5 MPa each) Coupler models : WVP-2BPH×2, WVP-2BSH×2
Air	One seating detection circuit (0.3 MPa) Coupler models : WVP-3DPN, WVP-3DSN

**Reactive force against clamping**

Clamping circuit

$$\text{Spring force } 40 \text{ (N)} + \text{hydraulic pressure } 5 \text{ (MPa)} \times 113 = 605 \text{ (N)}$$

Unclamping circuit

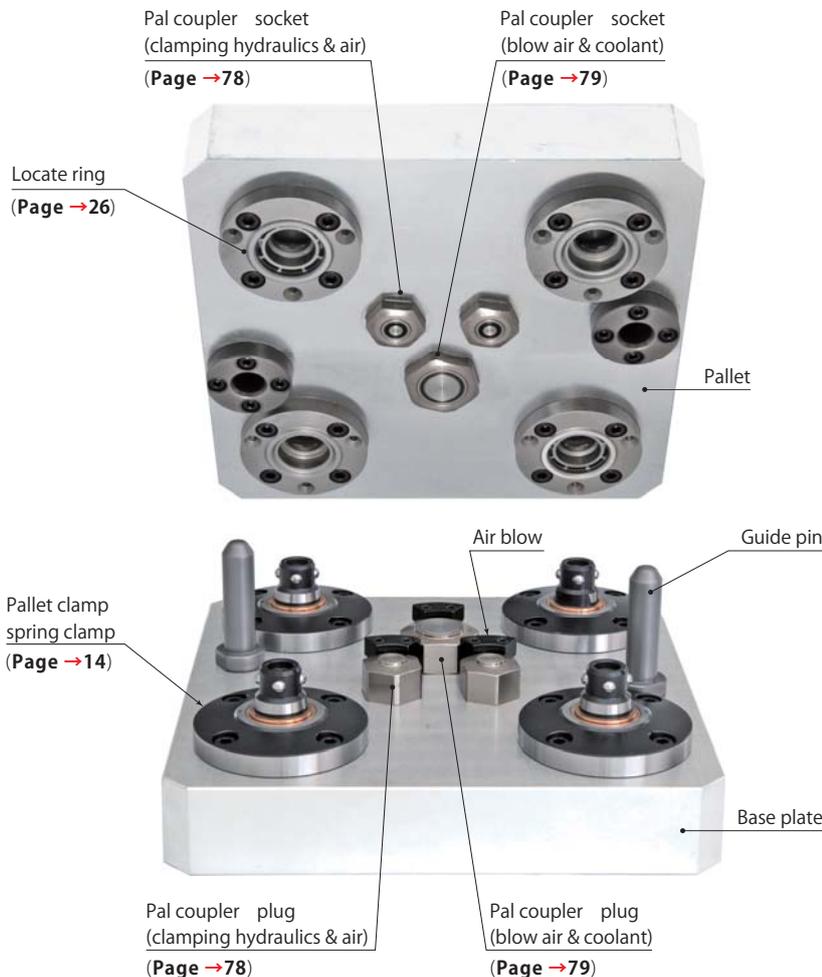
$$\text{Spring force } 40 \text{ (N)}$$

Air circuit

$$\text{Spring force } 60 \text{ (N)} + \text{air pressure } 0.3 \text{ (MPa)} \times 380 = 174 \text{ (N)}$$

**Total reactive force**

$$\text{Hydraulic coupler } 605 \text{ (N)} + 40 \text{ (N)} + \text{Air coupler } 174 \text{ (N)} = 819 \text{ (N)}$$



Standard Pal system configuration example

Coupler

WVP (common)