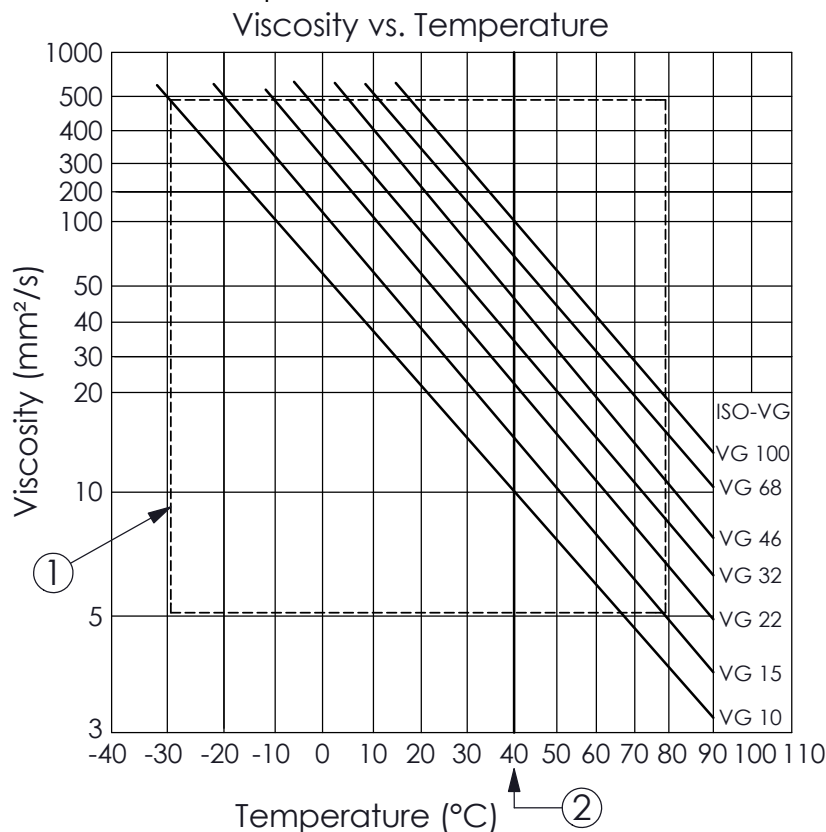


### (A)VISCOSITY

Selecting suitable viscosity for system operation with a hydraulic fluid is very important. ISO 3448:1992 viscosity classification is consequently based on kinematic viscosity at 40°C, and we list the common viscosity classification for hydraulic systems. Please check the viscosity at 40°C before selecting a fluid.

※Note: If your application required low viscosity (under 6 mm<sup>2</sup>/s), please contact Winner's sales department.



① Recommended range:  
If there are any requirements that fall outside the recommended range, please contact Winner sales department.

② Reference temperature  
(ISO 3448:1992)

Recommendations	STANDARD
	ISO 3448:1992
<ul style="list-style-type: none"> <li>◎ System for short time operation or clamping devices.</li> <li>◎ System for continuous operation (Operation in winter)</li> </ul>	VG 10, VG 15
<ul style="list-style-type: none"> <li>◎ General application (Operation in summer)</li> </ul>	VG 22, VG 32
<ul style="list-style-type: none"> <li>◎ Systems in tropical condition at ambient temperature up to 40 °C or closed rooms (temperature during start higher than 20°C)</li> </ul>	VG 46, VG 68
<b>WINNER TEST CONDITION :</b> Temperature: 40 °C (100 °F) Viscosity: ISO VG 32 (SUS 150) Cleanliness grades meets or exceeds: ISO 19/17/14 (ISO 4406), NAS 8 (NAS 1638)	

As customers' using environmental condition, oil temperature, working time and so on are different, the data will be different. Due to the influence of above factors, this technical information is only for reference. While we have made every effort to ensure the accuracy of this data, we do not express or implicitly warrant that such information is accurate. We will not be liable for any errors or omissions of such information.