

## **Hydraulic Oils**

Premium Hyd AW - All-Climate Multi-Vis Hyd Oil - Ashless AW Prem Synthetic Hyd Oil Biodegradable Hydraulic AW - Paper Machine/Paper Mill Hyd Oils- Antiwear Special Hyd Oil R&O Turbine Compressor Oils (Non-EP) - R&O Turbine Compressor Oils (EP) - Utility Hyd Oil

(10/25/11 edition)

Value Tech Premium Hydraulic Antiwear Oils contain EP agents and chemical components to control wear, oxidation, sludge, corrosion, foaming, and to promote water separation. These oils are formulated to lubricate hydraulic systems that require wear protection, rust protection, and antioxidancy. The product is specifically formulated to provide robust pump and filtration performance in excess of 5,000 hours, even in the presence of incidental water contamination. Value Tech Premium Hydraulic Antiwear Oils are formulated to exceed the requirements of all main pump, filter and control valve OEMs who have hydraulic lubricant specifications. These oils provide protection to hydraulic systems employing vane, gear and other types of pumps that require antiwear (boundary-type) protection.

<u>Value Tech All-Climate Multi-Vis Hydraulic Oils</u> are high viscosity index oils formulated for applications where a wide range of temperature operation is needed. They contain EP agents and chemical components to control wear, oxidation, sludge, corrosion, foaming, and to promote water separation. These oils are formulated to lubricate hydraulic systems which require wear protection, rust protection, and antioxidancy. The product is specifically formulated to provide robust pump and filtration performance in excess of 5,000 hours, even in the presence of incidental water contamination. Value Tech All-Climate Multi-Vis Hydraulic Oils are formulated to exceed the requirements of all main pump, filter and control valve OEMs who have hydraulic lubricant specifications. These oils provide protection to hydraulic systems employing vane, gear and other types of pumps that require antiwear (boundary-type) protection.

<u>Value Tech Ash-less Premium AW Synthetic Hydraulic Oils</u> use full synthetic base stocks coupled with a robust ash-less additive system to form a superior multipurpose antiwear hydraulic fluid. These oils are designed for use in hydraulic systems, compressors, circulating/bearing applications and turbine applications, where either EP or non-EP use is indicated. They contain EP agents and chemical components to control wear, oxidation, sludge, corrosion, foaming, and to promote water separation. These oils are formulated to lubricate hydraulic systems which require wear protection, rust protection, and antioxidancy. The product is specifically formulated to provide robust pump and filtration performance in excess of 8,000 hours, even in the presence of incidental water contamination. Value Tech Ash-less Premium AW Synthetic Hydraulic oils are formulated to exceed the requirements of all main pump, filter and control valve OEMs who have hydraulic lubricant specifications. These oils provide protection to hydraulic systems employing vane, gear and other types of pumps that require antiwear (boundary-type) protection.

<u>Value Tech Biodegradable Hydraulic AW Oil</u> is formulated to lubricate hydraulic systems that require wear protection, rust protection, and antioxidancy. This oil also exhibits strong water separation characteristics, foam inhibition, thermal stability, filterability, and hydrolytic stability. The product is specifically formulated as biodegradable oil. Value Tech Biodegradable Anti-Wear Hydraulic oil is formulated to operate in systems with a variety of pump, filter, and control valves where a vegetable oil based hydraulic lubricant is specified.

Value Tech Paper Machine/Paper Mill Hydraulic Oils meet the most formidable challenge of equipment diversity that a hydraulic oil might encounter. Most modern paper machines have a "wet" end and "dry" end. The dryer section (a dry end) is exposed to very high temperatures of super heated steam used in the drying process and may possess hundreds of roller bearings requiring lubrications. These oils are formulated to allow very long service life, possessing excellent oxidation performance, thermal stability, good demulsibility and good rust protections. A high level of detergency has been added along with an EP agent and chemical components to control wear, oxidation, sludge, corrosion and foaming. The product is specifically formulated to provide robust pump and filtration performance in excess of 5,000 hours, even in the presence of incidental water contamination.

<u>Value Tech Antiwear Special Hydraulic Oil</u> is blended to offer performance properties for moderate service applications. These oils are suitable for a wide variety of applications where moderately inhibited oils are required. These products are suitable in pump, compressor and circulating systems. These oils contain an EP agent and chemical components to impart anti-wear, oxidation inhabitation, and extreme pressure properties.



<u>Value Tech R&O Turbine/Compressor Oils (Non-EP)</u> are premium oils that offer superior rust protection and antioxidancy. They also exhibit strong water separation characteristics, foam inhibition, thermal stability, filterability, and hydrolytic stability. The product has been specifically formulated to provide robust filtration performance in the presence of water contamination and other common contaminants. These oils have been formulated to bring some resistance to electrostatic discharge, an important feature in dry climates or in high temperature applications. Value Tech R&O/Turbine/Compressor Oils (Non-EP) are premium ash-less oils used in the lubrication of various compressors, turbines, circulating systems, and pumps.

Value Tech R&O Turbine/Compressor Oils (EP) are premium oils that bring superior rust protection and antioxidancy. They also exhibit strong water separation characteristics, foam inhibition, thermal stability, filterability, and hydrolytic stability. The product has specifically been formulated to provide Extreme Pressure and Anti-Wear (EP/AW) performance for systems with gear reduction drives or hydraulic systems that call for EP/AW performances. These oils are formulated with ash-less EP/AW chemistry which is designed to pass FZG and Ryder gear tests. Value Tech R&O/Turbine/Compressor Oils (EP) oils have been formulated to bring some resistance to electrostatic discharge, an important feature in dry climates or in high temperature applications. Value Tech R&O/Turbine/Compressor Oils (EP) oils are premium ash-less oils used in the lubrication of various compressors, turbines, circulating systems, and pumps. The R&O/Turbine/Compressor (EP) contains a non-zinc EP system, which may be used universally in all R&O/Compressor applications, and the unique performance needs of large turbine power generating units requiring such chemistry and performance.

<u>Value Tech Utility Hydraulic Oil Medium</u> is a general-purpose hydraulic oil carefully formulated from a balanced blend of selected base oils. This product is suitable for a wide variety of applications where inhibited oils are not required. This type of lubricant is particularly suitable in systems with high leakage rates or in "once-through" applications.

Some performance levels are limited by viscosity grades. Please consult the Value Tech Performance Application Chart, the Value Tech Inspection Data Table for the appropriate Value Tech product or contact your Value Tech District Manager for more complete information and recommendations.

Consult your Value Tech District Manager for specific pack sizes and product availability.



## TYPICAL INSPECTION DATA

| PICAL INSPECTI      |       |        |          |          | •         |           | 1         | •  |
|---------------------|-------|--------|----------|----------|-----------|-----------|-----------|--|
|                     | ISO   | SAE*   | API      | Flash    | Viscosity | Viscosity | Viscosity | Pour   |
|                     | grade | grade  | Gravity  | Point C. | cSt@40C   | cSt@100C  | Index     | Point, C.  |
|                     |       | approx |          |          |           |           |           |  |
|                     | 15    | 5      | 31.7     | 180      | 15.4      | 3.4       | 100       | -36  |
| PREMIUM             | 22    | 10     | 31.3     | 190      | 22.0      | 4.3       | 100       | -33  |
| HYDRAULIC           | 32    | 10     | 30.4     | 200      | 31.8      | 5.5       | 100       | -30  |
| ANTIWEAR            | 46    | 20     | 31.8     | 200      | 45.9      | 6.9       | 100       | -27  |
| OILS                | 68    | 20     | 31.1     | 210      | 68.0      | 9.0       | 100       | -24  |
|                     | 100   | 30     | 29.7     | 220      | 100       | 11.5      | 100       | -18  |
|                     | 150   | 40     | 28.7     | 230      | 150       | 14.6      | 100       | -12  |
|                     | 220   | 50     | 27.8     | 240      | 220       | 19.1      | 100       | -9   |
|                     |       | _      |          |          |           |           |           |  |
| ALL                 | 15    | 5      | 31.7     | 180      | 16.0      | 3.6       | 100       | -40  |
| CLIMATE             | 22    | 10     | 31.3     | 190      | 22.5      | 5.0       | 140       | -40  |
| MULTI-VIS           | 32    | 20     | 30.4     | 190      | 31.8      | 6.2       | 140       | -40  |
| HYDRAULIC           | 46    | 20     | 31.8     | 200      | 44.5      | 8.0       | 140       | -40  |
| OILS                | 68    | 30     | 31.1     | 210      | 68.0      | 10.9      | 140       | -40  |
|                     | 100   | 40     | 29.7     | 220      | 100       | 14.4      | 140       | -40  |
|                     |       |        |          |          |           |           |           |  |
| ASH-LESS            | 15    | 5      | 37.9     | 180      | 15.3      | 3.6       | 120       | -42  |
| PREMIUM             | 22    | 10     | 37.1     | 190      | 22.3      | 4.6       | 120       | -42  |
| AW                  | 32    | 20     | 36.3     | 200      | 32.2      | 5.9       | 120       | -42  |
| SYNTHETIC           | 46    | 20     | 35.7     | 200      | 46.2      | 7.6       | 120       | -42  |
| HYDRAULIC           | 68    | 30     | 35.4     | 210      | 68.8      | 10.2      | 120       | -42  |
| OILS                | 100   | 40     | 35.1     | 220      | 100       | 13.5      | 120       | -42  |
|                     |       |        |          |          |           |           |           |  |
| BIO-DEGRADABLE      |       |        |          | • • • •  |           |           | 400       |  |
| HYDRAULIC AW        | 32    | 20     | 36.3     | 200      | 32.2      | 5.9       | 100       | -33  |
|                     | 1     |        | 21.5     | 100      | 15.4      | 2.4       | 100       | 2.5  |
| DADED               | 15    | 5      | 31.7     | 180      | 15.4      | 3.4       | 100       | -36  |
| PAPER               | 22    | 10     | 31.3     | 190      | 22.0      | 4.3       | 100       | -33  |
| MACHINE             | 32    | 10     | 30.4     | 200      | 31.8      | 5.5       | 100       | -30  |
| PAPER MILL          | 46    | 20     | 31.8     | 200      | 45.9      | 6.9       | 100       | -27  |
| HYDRAULIC           | 68    | 20     | 31.1     | 210      | 68.0      | 9.0       | 100       | -24  |
| OILS                | 100   | 30     | 29.7     | 220      | 100       | 11.5      | 100       | -18  |
|                     | 150   | 40     | 28.7     | 230      | 150       | 14.6      | 100       | -12  |
| ANTENNEAD           | 220   | 50     | 27.8     | 240      | 220       | 19.1      | 100       | -9   |
| ANTIWEAR<br>SPECIAL | 32    | 10     | 22.5     | 200      | 28.8      |           |           | -12  |
| HYDRAULIC           | 46    | 20     | 22.0     | 200      | 42.6      | -         | -         | -12  |
| OILS                | 68    | 20     | 22.0     | 210      | 63.0      | -         | -         | -12  |
| OILS                | 08    | 20     | 22.0     | 210      | 05.0      | -         | -         | -9   |
|                     | 22    | 10     | 31.3     | 190      | 22.0      | 4.3       | 100       | -21  |
| R & O               | 32    | 10     | 30.5     | 200      | 32.0      | 5.3       | 100       | -21  |
| TURBINE             | 46    | 20     | 29.3     | 200      | 46.0      | 6.8       | 100       | -13  |
| COMPRESSOR          | 68    | 20     | 29.3     | 210      | 68.0      | 8.7       | 100       | -12  |
| OILS                | 100   | 30     | 21.5     | 220      | 96.0      | 11.2      | 100       | -9   |
| (NON-EP)            | 150   | 40     | 21.0     | 230      | 147.0     | 14.2      | 100       | -9   |
| (INOIN-LEF)         | 130   | 70     | 21.0     | 230      | 147.0     | 14.2      | 100       | -7   |
| R & O TURBINE       | 32    | 10     | 31.5     | 200      | 32.0      | 5.4       | 100       | -15  |
| COMPRESSOR OILS     | 46    | 20     | 31.1     | 200      | 46.0      | 6.9       | 100       | -13  |
| (EP)                | 68    | 20     | 28.7     | 210      | 68.0      | 8.6       | 100       | -12  |
| (LI)                | - 50  | 20     | 20.7     | 210      | 00.0      | 0.0       | 100       | 12   |
| UTILITY HYD         | Med   | 20     | 31.1     | 200      | 46.0      | _         | _         | -9   |
| OIL MEDIUM          | 11100 | 20     | 51.1     | 200      | 10.0      |           |           | <del>                                     </del> |
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| SPECIFICATIONS              | Premium<br>Hydraulic<br>Antiwear | All Climate<br>Multi-Vis<br>Hydraulic | Ash-less<br>Premium<br>AW<br>Synthetic | Bio-<br>degrad-<br>able HYD<br>AW | Paper<br>Mach<br>Paper<br>Mill | Anti-<br>Wear<br>Special<br>Hyd. | R&O<br>Turbine<br>Comp.<br>(Non-EP) | R&O<br>Turbine<br>Comp,<br>(EP) | Utility<br>Hydraulic<br>Oil<br>Medium* |
|-----------------------------|----------------------------------|---------------------------------------|--|-----------------------------------|--------------------------------|----------------------------------|-------------------------------------|---------------------------------|--|
| Denison HF-0,1,2            | <b>√</b>                         | V                                     | √ √                                    | HF-6                              | √                              | HF-1                             | HF-1                                | \(\( \)_\( \)                   | HF-0                                   |
| Vickers M-2950-S            | 1                                | V                                     | √ ·                                    | -                                 | V                              | -                                | -                                   | V                               | -                                      |
| Vickers I-2860-S            | <b>√</b>                         | V                                     | <b>√</b>                               | -                                 | <b>√</b>                       | -                                | -                                   | V                               | -                                      |
| Cin.Lamb P-68/69/70         | <b>√</b>                         | V                                     | V                                      | -                                 | <b>V</b>                       | -                                | -                                   | <b>V</b>                        | -                                      |
| Cin.Lamb P-38,54,55,57      | -                                | -                                     | -                                      | -                                 | -                              | -                                | <b>√</b>                            | <b>V</b>                        | -                                      |
| US Steel 126                | <b>√</b>                         | V                                     | <b>V</b>                               | -                                 | <b>V</b>                       | <b>√</b>                         | -                                   | <b>V</b>                        | -                                      |
| US Steel 127                | <b>√</b>                         | V                                     | V                                      | -                                 | <b>√</b>                       | -                                | -                                   | V                               | -                                      |
| US Steel 136                | $\sqrt{}$                        | V                                     | V                                      | -                                 | V                              | -                                | -                                   | V                               | -                                      |
| Sunstrand                   | $\checkmark$                     | $\checkmark$                          | $\checkmark$                           | -                                 | V                              | -                                | -                                   | √                               | -                                      |
| Rexroth RE 90220            | $\checkmark$                     | $\checkmark$                          | <b>√</b>                               | 90221                             | V                              | $\sqrt{}$                        | -                                   | V                               | -                                      |
| Racine                      | $\checkmark$                     | $\checkmark$                          | $\checkmark$                           | -                                 | V                              | -                                | -                                   | √                               | -                                      |
| Parker                      | $\checkmark$                     | $\checkmark$                          | $\checkmark$                           | -                                 | V                              | $\sqrt{}$                        | -                                   | √                               | -                                      |
| AAMA DIN51524               | Part 2                           | Part 2                                | Part 2                                 | -                                 | Part 2                         | -                                | Part 1                              | Part 1                          | -                                      |
| AAMA DIN51515               | -                                | -                                     | -                                      | -                                 | -                              | -                                |                                     | $\checkmark$                    | -                                      |
| SEB 181222                  | $\checkmark$                     | $\sqrt{}$                             | $\sqrt{}$                              | -                                 | $\checkmark$                   | -                                | -                                   | √                               | -                                      |
| SAE MS1004                  | $\checkmark$                     | $\sqrt{}$                             | $\sqrt{}$                              | -                                 | $\checkmark$                   | -                                | -                                   | √                               | -                                      |
| AFNOR NF 48-603             | $\sqrt{}$                        | $\sqrt{}$                             | $\sqrt{}$                              | -                                 | $\sqrt{}$                      | -                                |                                     | V                               | -                                      |
| GEK 101941A                 | -                                | -                                     | -                                      | -                                 | -                              | -                                | -                                   | √                               | -                                      |
| GEK<br>32568E,28143A,46506D | -                                | -                                     | -                                      | -                                 | -                              | -                                | <b>V</b>                            | √                               | -                                      |
| BS 489                      | -                                | -                                     | -                                      | -                                 | -                              | -                                | √                                   | √                               | -                                      |
| Mil-L-17672D                | -                                | -                                     | 1                                      | -                                 | -                              | -                                | V                                   | -                               | -                                      |
| Mil-L-17331H                | -                                | -                                     | -                                      | -                                 | -                              | -                                | -                                   | <b>√</b>                        | -                                      |
| Brown HTGD90117             | -                                | -                                     | -                                      | -                                 | -                              | -                                | -                                   |                                 | -                                      |

## PERFORMANCE APPLICATION CHART

The data presented herein are believed to be accurate; however, ValueTech Lubricants shall not be liable for its content and makes no warranty with respect thereto. ValueTech Lubricants., 1601 McCloskey Blvd., Tampa, Fl 33605, U.S.A. Telephone 813 248-1988; Fax 813 248-1488; <a href="info@valueTechlube.com">info@valueTechlube.com</a> www.ValueTechlube.com

<sup>\*</sup> Utility Hydraulic Medium is a general purpose Hydraulic Oils that is suitable in many applications where inhibited oils are not required.