

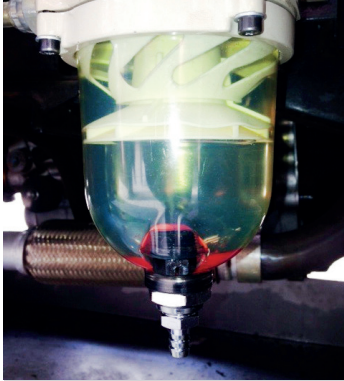
“The Bulldog”

Why visible inspection of diesel fuel is important

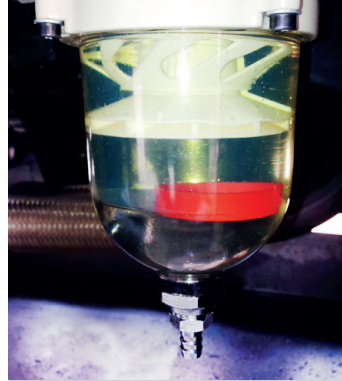
DUO - Coalesce Dual Water Separator

Contamination is everywhere in the fuel supply chain. The on-board filters are the last line of defence. Water is the “silent killer” – water has inferior lubrication properties, pressure, corrosion, fuel oxidation, viscosity and possible bacteria & fungi, the direct cause of many catastrophic failures and operational losses.

Note: 39% of 7000 samples tested at Wearcheck failed, due to water contamination.



Normal



Free Water



Black Diesel



Amber Diesel

- Indicative of quality diesel with no signs of large visible dirt particles or water ingress
- There also appears to be no high level of “Free Water” content, nor a silvery shine due to sun reflecting off dirt particles which you cannot see with the naked eye
- Clearly demonstrates how the RED indicator “Ring” rises according to the water content within the Fuel. Here we notice that the RED indicator “Ring” is in an elevated position (floats on top of the water to indicate water ingress)
- The colour of fuel in this picture is significant to ‘Black Diesel’
- The dark appearance suggests a mixture comprised of paraffin (IP) and oil for lubricity
- Black Diesel reduces lubricity, will increase carbon buildup and is a major cause of increased wear
- 3-6% water in permanent suspension due to unscrupulous additive
- Fatal/catastrophic for modern engines as detection is highly problematic
- Most standard water filters do not trace nor recognize amber diesel and therefore simply allow amber diesel to pass through the filter
- Notwithstanding the benefit of being able to observe the water level but, the colour of the Fuel/ Diesel is very noticeable
- A very interesting mixture of ‘liquids’ in this picture. This actually happened to a demonstration unit fitted on the iCerMax™ KIA installation vehicle
- The two different fuel types within this system were clearly noted due to the amber diesel remaining at the bottom and not mixing with the normal quality of diesel
- The lower level of Orange coloured fuel suggests that there may be an additive mixed with water present in the system. The only way to remove it was to drain it from the vehicle, and upon lab testing it was discovered that there was approximately 6% of volume in suspension.

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10 September 2013
Technical
Ceramic Pre Filter Test

Good Day Andre

Deutz Dieselpower neither approves nor disapproves the use of any product manufactured, sold or specifically recommended by Deutz AG.

Deutz AG & Deutz Dieselpower are not in a position to evaluate the suitability or their potential effect of the many third party products available in the market. Use of any such product on a Deutz engine is at the discretion of the end-user or equipment owner who implemented the use of such product & any problems resulting from the use of the product will not be covered under the Deutz warranty.

Deutz Dieselpower cannot guarantee the operation of a third party product. A guarantee of the system must be obtained from the supplier.

The Equipment-Duo water trap filter was tested on a Deutz BF6L914C engine at low idle & at high idle. The following results were obtained.

Deutz
52 Curlew, CV Ameli,
25 Curlew, CV Ameli,
307 Zulu, 87 Melville, 41 Pringle
Burgelman, 26, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

Pressure	Before Filter	After Filter	Filter Restriction
Idle	0.2 Bar	0.18 Bar	0.12 Bar
High Idle	0.022 Bar	0.02 Bar	0.02 Bar

Suction Pressure	Before Filter	After Filter	Filter Restriction
Idle	0.3 Bar	0.15 Bar	0.15 Bar
High Idle	0.5 Bar	0.2 Bar	0.3 Bar

Deutz will allow the use of the iCerMax water trap filter on our engines without affecting the warranty, providing that the use of such a product does not affect the technical specifications stipulated by Deutz. However this filter is too big to fit onto an underground mining machine. Any performance problems or failure caused by any products not manufactured or sold by Deutz will not be warrantable by Deutz Dieselpower.

Yours faithfully
Best Regards
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Customer Support Engineer

Dijk Jacobs
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Customer Support Manager



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ICERMAX

www.icermax.com



DUO - Coalesce Dual Water Separator



The DUO as its name indicates offers the best proven complete solutions to address both free water and particle contamination in one effective pre-filter.- "The Bulldog".

It does so with surety on the principles of ceramic filtration, cost effectively with long maintenance intervals. Therefore lower overall running costs, easy operational maintenance and installation.

Water Coalescer removes free water from fuel that passes through iCerMax™ DUO effectively. The operational efficiency is not adversely affected, due to the application of the 'Coalesce Principle' on a large permanently fitted double pressure cone. See efficiency on above "Coalesce principle' as tested independently by the SABS on our website "99.9 % removal of free water".

The iCerMax™ DUO filter range remains effective at all times as it does not rely on the integrity of standardised paper nor synthetic filtration mediums, which are septic to compromise on various field scenarios and contamination volumes.

You achieve sustainable filtration and condition monitoring due to the inherent characteristics of Wonderstone ceramic depth filtration medium.

The ceramic medium within the DUO system unit is not affected by any volume/s of free water as it had stood the test against 100% Sulphuric Acids etc and differential pressures over eight bars, see IFTS independent tests on website.

iCerMax™ ceramic filters extend your economical life cycle of engines and equipment. Ceramics by their filtration characteristics do not flex, unload, tear, form channels nor will the medium compromise whatsoever. Deutz Dieselpower has independently tested the increase of differential pressure (0.02Bar) on pressure and (0.15-0.3 Bar) on suction side on a high and low flow on a Deutz BF6L914C, see test results on website.

Inspection of the fuel colour i.e. 'amber' 'black diesel' (paraffin/oil additive mixture) & free water can be done easily and regularly on the DUO, physically inspect the fuel that you buy and ensure that your fuel distributors supply the quality you paid for.

iCerMax™ offers a complete range of DUO solutions and bulk tank filtration solutions.



These may not be stock items. Please speak to our sales representative about lead times. Lead times, price and availability can only be determined on receipt of an official quote from our suppliers of component parts. This can sometimes take up to 3 days.

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For our full distributor network please visit www.icermx.com



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