

Available alternative systems at-a-glance

	Perc	Intense	DF2000 / EcoSolv	K-TEX	Solvon K4	Sensene	CO2	Wet Cleaning	GreenEarth Cleaning
Chemical Properties	Halogenated Hydrocarbon	Hydrocarbon + Glycol Ether	Hydrocarbon	Hydrocarbon + Glycol Ether + "Identifier"	Formaldehyde Dibutyl Acetal	Modified Alcohol + Hydrocarbons	Carbon dioxide	H2O	Decamethylcyclopentasiloxane
Solvent Chemical Structure	Carbon Organic	Carbon Organic	Carbon Organic	Carbon Organic	Carbon Organic	Carbon Organic	N/A Organic	N/A Inorganic	Silica Inorganic
Odor	Strong ether-like smell	"Product-specific mild smell"	Slight petroleum smell	Mild Citric	Strong paint-like smell	Mild, Menthol-like	Odorless	Odorless	Odorless
Commercial Introduction	1940s	2015	1993	2016	2010	2016	1993	1994	1999
# Machines U.S.	<25,000	N/A	<8,000	N/A	<200	>25	<10	<150 ⁴	<1000
Machine System Cost	\$30,000 - \$75,000	\$45,000 - \$95,000	\$45,000 - \$95,000	\$45,000 - \$95,000	\$54,000 - \$105,000	\$45,000 - \$95,000	\$125,000+	\$50,000+	\$38,000 - \$95,000
IFI Performance Ratings Contamination Health Issues Equipment Cost Operating Cost Variety of Garments Does it clean?	Poor Poor Excellent Excellent Good Yes	Average Average Good Average Good Yes	Average Average Good Average Good Yes	Average Average Good Average Good Yes	Average ¹ N/A Average ¹ Average ¹ Good ¹ Yes ¹	N/A N/A N/A N/A N/A N/A	Excellent Excellent Poor Poor ¹ Poor ¹ Yes	Excellent Excellent Excellent Average Poor Yes	Excellent Good Good Excellent Excellent Yes
Extensive, openly reported testing	Yes	No	No	No	No	No	No	Yes	Yes
Physical Properties	Clear liquid	Clear liquid	Clear liquid	Clear liquid	Clear liquid	Colorless liquid	Colorless gas	Clear liquid	Clear liquid
Surface Tension² (dynes/cm-2)	32	24 @ 68°F	24 @ 68 °F	24 @ 68 °F	25.2	not reported	N/A	72.7 @ 68 °F	17.4
Solvent KB Value³	90	73	27	75	75	161	N/A	N/A	<20
Specific Weight (water = 8.3lbs/gal)	13.6	6.56	6.6	6.7	6.9	6.96	N/A	8.3	7.9
Flash Point	None	> 147 °F	142-147 °F	> 142 °F	143 °F	149 °F	None	None	170°F
Machine Class	IV	IIIA	IIIA	IIIA	IIIA	IIIA	Pressure Vessel	-	IIIA
VOC, HAP, TAC	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Permits Required	Yes	Yes	Yes	Yes	Yes	Yes	Rarely	Rarely	Rarely
Claims	(Baseline)	Less than perc	Less than perc	Less than perc	Similar to perc	Unknown	Similar to perc	Higher than perc	Significantly less than perc
Shrinkage Issues	Some	Some	Some	Some	Some	Unknown	Some Acetate/Triacetate	Yes	None
Color Fastness	Average	Good	Good	Good	Average	Poor	Good	Good	Exceptional
Hand of Garment	Average	Average	Good	Average	Good	Similar to perc	Good	Good	Exceptional
Pre-sort Necessary	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Limited
Problem Garments	Silks, beads, trims, vinyl buttons, leather, cashmere	Silks, beads, trims, vinyl, buttons, leather, cashmere	Certain beads, trims, vinyl, buttons, certain colors	Silks, beads, trims, vinyl, buttons, leather, cashmere	Certain trims, beads, vinyl, ornamentation	Similar to perc	Acetates, triacetates, elastic, beads, trims, buttons	Wool, natural fiber/skins, water soluble dyes	None
Finishing	Baseline	Similar to perc	Similar to perc	Similar to perc	Similar to perc	Similar to perc	Significantly higher than perc (cold drying creates wrinkling)	Significantly higher (must be dried 80% and blocked and stretched)	Significantly less than perc; less wrinkling, lint & static, large % can be tunneled
Cycle Time	35 - 55 minutes	60 - 70 minutes	47 - 65 minutes	60 - 70 minutes	60 - 80 minutes	Unknown	35 - 45 minutes	28 minutes (dried 80%)	47-65 minutes
Operational & Technical Support	No	No	No	No	Via Kreussler Rep	Via Soap Rep	No	No	Yes
Marketing Support	None	None	None	None	Limited	None	None	None	Significant
Fees, Royalties, Proprietary Products	N/A	N/A	N/A	N/A	Proprietary products required (solvent, detergent, stabilizer and spotters)	Not possible to convert a used machine, must be a new machine w/ special gaskets	N/A	N/A	\$2,500 license fee 1st machine (additional machines \$1,250)

¹ Represents modification to IFI assessment by GreenEarth Cleaning, based on input from industry experts informed by in-use experience; K4 and Rynex represent industry reported performance, no IFI ratings exist. ² Surface tension has a direct correlation to cleaning ability. The lower the surface tension, the quicker the wetting and penetrating ability for cleaning to take place.

³ KBV is a measure of the strength of the solvent alone in dissolving Kauri Gum (degreasing ability); GreenEarth without detergent has a low KBV, meaning that it is not itself a cleaning agent, but the unique chemical interaction that siloxanes have with detergent allows it to clean as effectively as higher KB value solvents without risk of damage to the fabric. ⁴ 100% wet cleaning processing.