

CHECK LIST FOR MODIFICATIONS TO STANDARD PUMP DESIGN - THEIR EFFECTS ON DELIVERY, MANUFACTURING AND COSTS

● always applicable

⊠ Probable

Types of Additional Costs		Obvious costs					Other																					
		Eng. Cost (Technical)	Eng. Cost (Administrative)	Jig and Tool Manufact. Admin.	Pattern Manufact. and Admin.	Planning Cost	Administrative costs							Storage Cost			Stock			Side Effects								
7	8						9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27			
Types of Modifications		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Description	Examples																											
Modified Component	Weight, Complexity etc.	●	●	⊠	⊠	●		●	●	●		⊠	●		⊠	⊠	●		⊠	⊠	⊠	●		●	●	⊠		
Additional Component	Affecting Design etc. Special Bearing Seal	●	●	⊠	⊠	●		●	●	●		⊠	●		⊠	⊠	⊠		⊠	⊠	⊠	●		●	⊠	⊠		
Different Material	Different Grade	●	●	⊠	⊠	●		●	●	●			●		⊠	⊠	⊠		⊠	⊠	⊠	●		●	⊠	⊠		
Common Component not to makers' normal production pattern	Bolts, Nuts, Bearings, Seals, Packing	●	●			●		●	●	●			●		⊠	⊠	⊠		⊠	⊠	⊠	⊠		⊠	⊠	⊠		
A Part etc. to Users Standard	Coupling Guard, Baseplate	●	●			●		●	●	●			●		⊠	⊠	⊠		⊠	⊠	⊠	⊠		⊠	⊠	⊠		
Additional Item	Control Valve	●	●					●	●	●			●		⊠	⊠	⊠		⊠	⊠	⊠	⊠		⊠	⊠	⊠		
Change in Performance Characteristics	Max. Impeller Dia, Limit etc.	●	●	⊠	⊠	●		●	●	●		⊠	●		⊠	⊠	⊠		⊠	⊠	⊠	⊠		⊠	⊠	⊠		
Configuration	Location on Base	●	●	⊠	⊠	●		●	●	●		⊠	●		⊠	⊠	⊠		⊠	⊠	⊠	⊠		⊠	⊠	⊠		
Drive	Close Coupled to Non-standard Motor	●	●	⊠	⊠	⊠		●	⊠	●					⊠	⊠	⊠		⊠	⊠	⊠	⊠		⊠	⊠	⊠		
Auxiliary Design Feature	Sealing Method, Sleeve Securing Method	●	●	⊠	⊠	●		●	●	●		⊠	●		⊠	⊠	⊠		⊠	⊠	⊠	●		●	●	⊠		
Complex Quality Control	Additional Documents Additional Procedures	●	●	⊠	⊠	●		●	●	●		⊠	●		⊠	⊠	⊠		⊠	⊠	⊠	⊠		⊠	⊠	⊠		
Performance Specification	Noise, Vibration etc.	●	●	⊠	⊠	●		●	⊠	●		⊠	●		⊠	⊠	⊠		⊠	⊠	⊠	⊠		⊠	⊠	⊠		
Different Auxiliary Materials	Painting, Finishes etc.	●	●			●		●	●	●			●		⊠	⊠	⊠		⊠	⊠	⊠	⊠		⊠	⊠	⊠		
Transport and Packing Instructions		●	●			●		●	⊠	●			●		⊠	⊠	⊠		⊠	⊠	⊠	⊠		⊠	⊠	⊠		