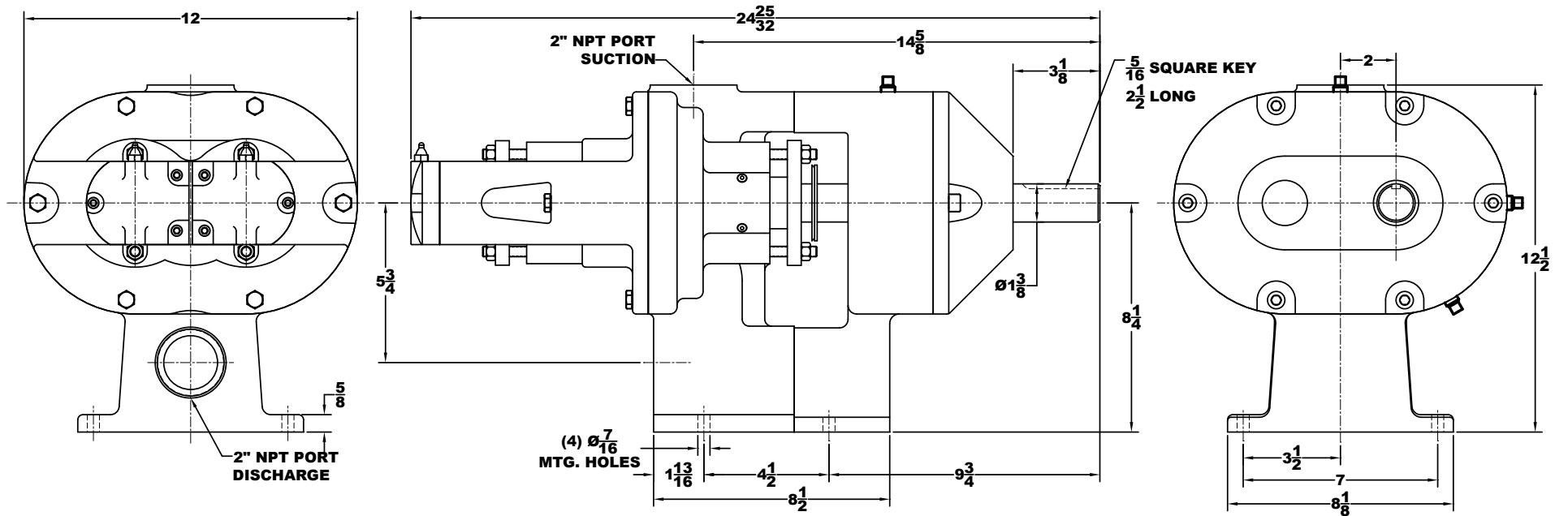
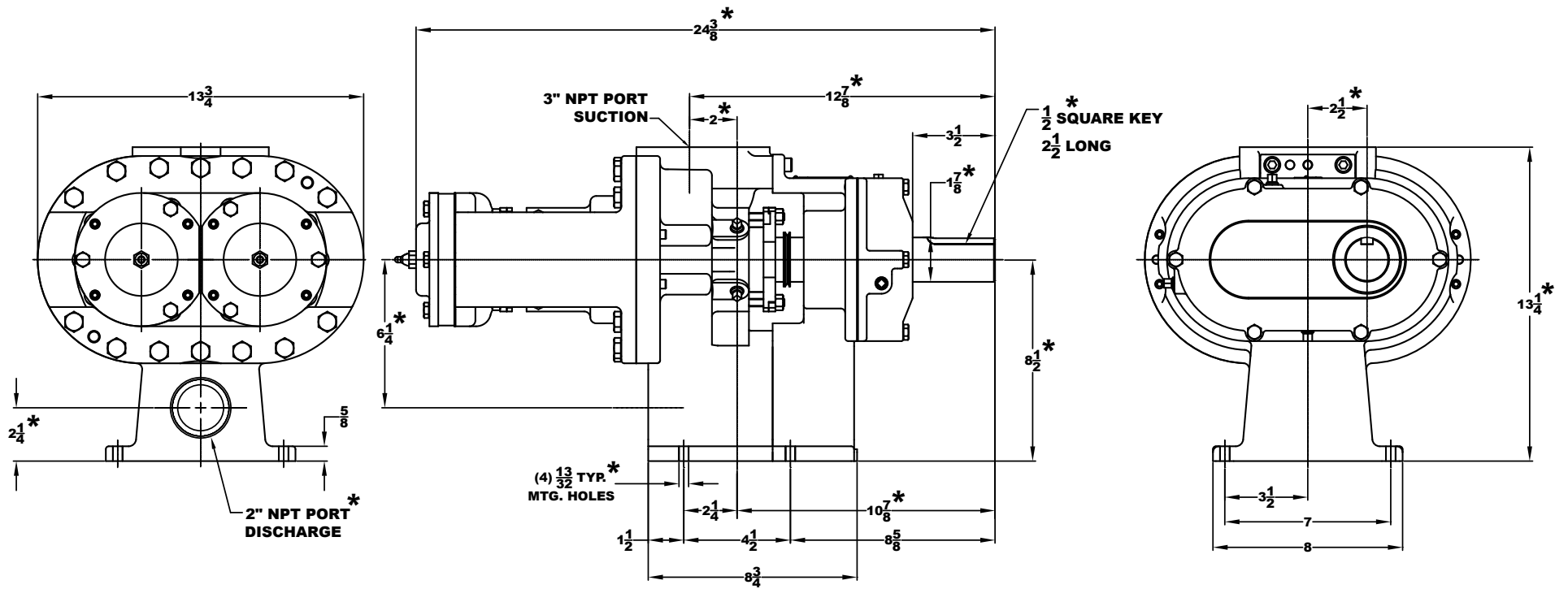


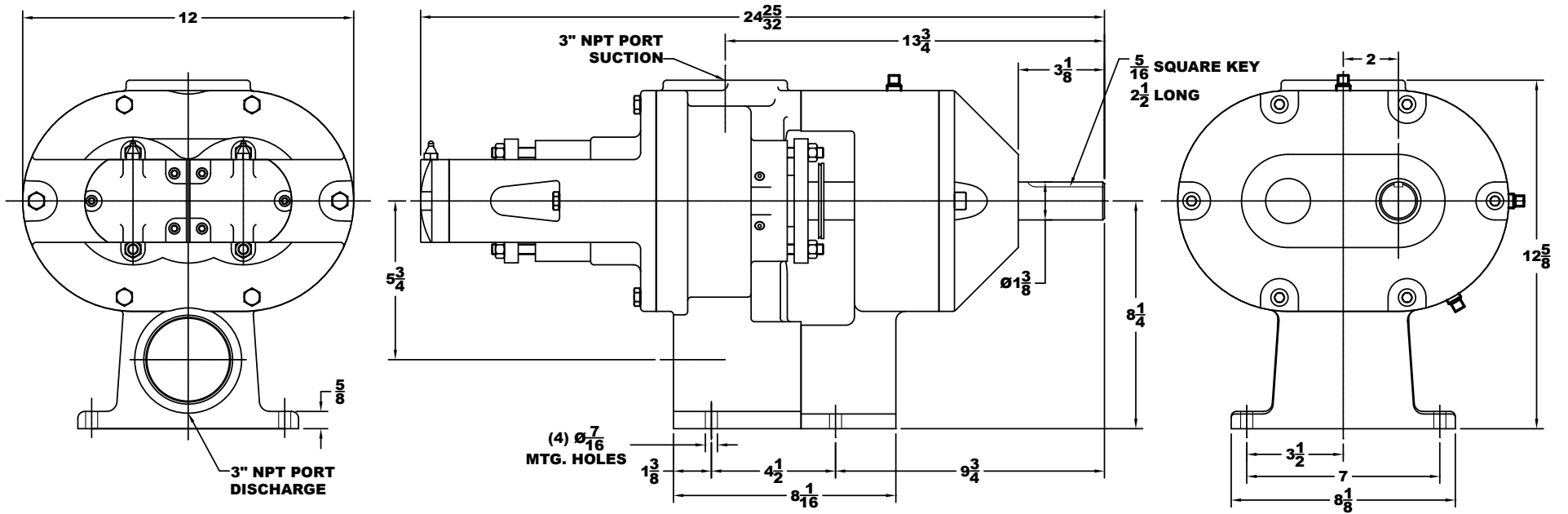
HD2A



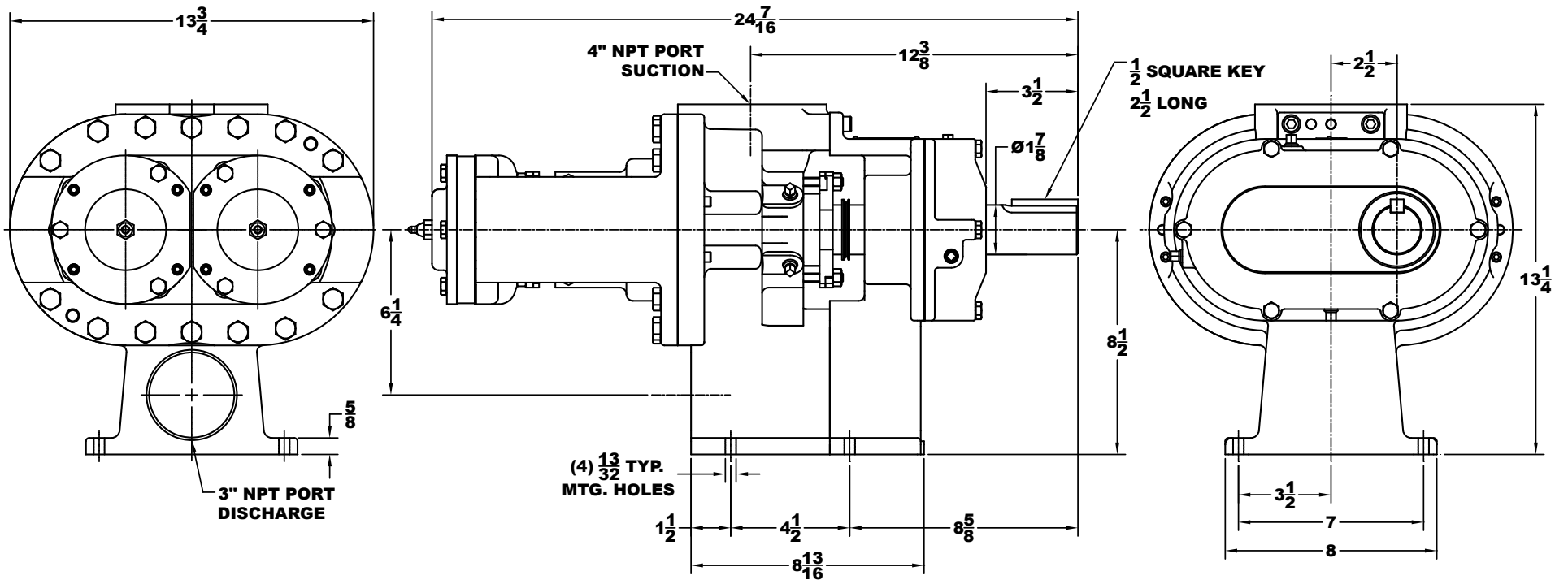
# HD70A



| Section        | Descripton                                      | 2A               | 70A             | Remarks  |
|----------------|---|------------------|-----------------|--|
| Mounting Holes | Mounting Hole Location                          | Same             | Same            | Existing mounting holdes can be re-used and adjustments can be made to piping and motor locations.   |
|                | Mounting Hole Size                              | (4) 7/16"        | (4) 13/32"      | Same fasteners can be re-used.   |
| Drive Shaft    | Shaft Diameter                                  | 12"              | 1-7/8"          | Move motor closer to pump and/or increase couplong length to take up 1-1/8" difference.              |
|                | Square Key Size                                 | 5/16 x 2-1/2 Lg. | 1/2 x 2-1/2 Lg. | Key for new coupling bore is also larger.  |
|                | Center of Mounting Hole Pattern to End of Shaft | 12"              | 10-7/8"         | Move motor closer to pump and/or increase coupling length o take up 1-1/8" difference.               |
|                | Shaft offset from Center of Pump                | 2"               | 2-1/2"          | Reposition the motor 1/2".   |
|                | Shaft Center to Bottom of Pump                  | 8-1/4"           | 8-1/2"          | Shim motor 1/4" <b>Note:</b> Shimming pump 1/4" & motor 1/2" will maintain discharge piping height.  |
|                | Shaft End to Body of Pump                       | 3-1/8"           | 3-1/2"          | 70A has more room to fit larger coupling.  |
| Suction Port   | Size  | 3" NPT           | 3" NPT          |  |
|                | Center Port to Center of Mounting Patter        | 1-3/4"           | 2"              | Relocate port piping 1/4" away from motor end of pump.   |
|                | Center Port to End of Shaft                     | 13-3/4"          | 12-7/8"         |  |
|                | Bottom of Pump to Port Surface                  | 12-5/8"          | 13-1/4"         | Size 70A is .625 higher, so cut back piping by that amount.  |
| Discharge Port | Size  | 3" NPT           | 2" NPT          | Install reducer bushing and shorten pipe or re-size pipe.  |
|                | Center of Port to Bottom of Pump                | 2-1/2"           | 2-1/4"          | Shim pump 1/4" <b>Note:</b> Shimming pump 1/4" and motor 1/2" will maintain discharge piping height. |
|                | Center of Port to Drive Shaft                   | 5-3/4"           | 6-1/4"          | Reference Dimensions   |
| Pump Footprint | Width   | 12"              | 13-3/4"         |  |
|                | Height  | 12-5/8"          | 13-1/4"         |  |
|                | Length Including Shaft                          | 24-25/32"        | 24-7/16"        |  |



HD120A



| Section        | Descriptor                                      | 3A               | 120A            | Remarks   |
|----------------|---|------------------|-----------------|---|
| Mounting Holes | Mounting Hole Location                          | Same             | Same            | When replacing 120A with 3A existing mounting holes can be reused and adjustments made to piping and motor locations. |
|                | Mounting Hole Size                              | (4) 7/16"        | (4) 13/32"      | Same fasteners can be re-used   |
| Drive Shaft    | Shaft Diameter                                  | 1-3/8"           | 1-7/8"          | 1/2" larger coupling bore required  |
|                | Square Key Size                                 | 5/16 x 2-1/2 Lg. | 1/2 x 2-1/2 Lg. | Key for new coupling bore is also larger.   |
|                | Center of Mounting Hole Pattern to End of Shaft | 12"              | 10-7/8"         | Move motor closer to pump and/or increase coupling length to take up 1-1/8" difference.                               |
|                | Shaft Offset (from Center of Pump)              | 2"               | 2-1/2"          | Reposition motor 1/2"   |
|                | Shaft Center to Bottom of Pump                  | 8-1/4"           | 8-1/2"          | Shim motor 1/4" (NOTE: Shimming pump 1/4" and shimmming motor 1/2" will maintain discharge piping height).            |
|                | Shaft End to Body of Pump                       | 3-1/8"           | 3-15/32"        | 70A has more room to fit larger coupling.   |
| Suction Port   | Size  | 3" NPT           | 4" NPT          |   |
|                | Center of Port to Center of Mounting Pattern    | 1-3/4"           | 1-1/2"          | Relocate port piping 1/4" towards motor end of pump.  |
|                | Center of Port to End of Shaft                  | 13-3/4"          | 12-3/8"         |   |
|                | Bottom of Pump to Port Surface                  | 12-5/8"          | 13-1/4"         | 120A is .625 higher, so cut back piping by that amount.   |
| Discharge Port | Size  | 3" NPT           | 3" NPT          |   |
|                | Center of Port to Bottom of Pump                | 2-1/2"           | 2-1/4"          | Shim pump 1/4" (NOTE: Shimmming pump 1/4" and shimmming motor 1/2" will maintain discharge piping height).            |
|                | Center of Port to Drive Shaft                   | 5-3/4"           | 6-1/4"          | Reference dimensions  |
| Pump Footprint | Width   | 12"              | 13-3/4"         |   |
|                | Height  | 12-5/8"          | 13-1/4"         |   |
|                | Length (including shaft)                        | 24-25/32"        | 24-7/16"        |   |