```fortran
subroutine evalFuncGrad(this, num_dvs, x, f, dfdx)

  class(integrator)                            :: this
  integer, intent(in)                          :: num_dvs
  type(scalar), dimension(:), intent(inout)    :: x
  type(scalar), dimension(:), intent(inout)    :: dfdx
  type(scalar), intent(inout)                  :: f
  real(dp), parameter                          :: dh = 1.0d-8
  type(scalar)                                 :: ftmp, xtmp
  integer                                      :: m
```